

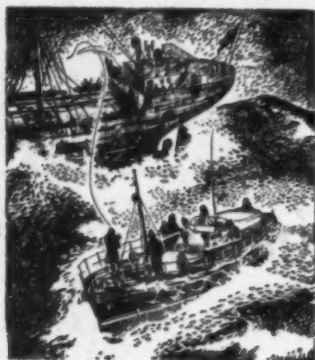
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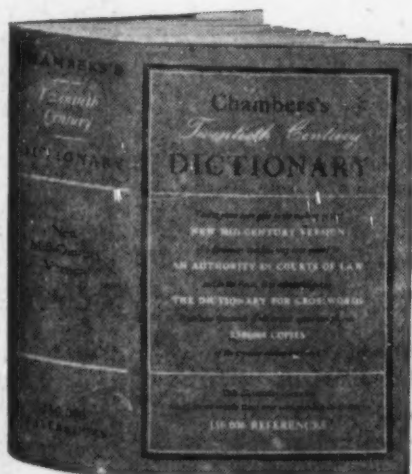
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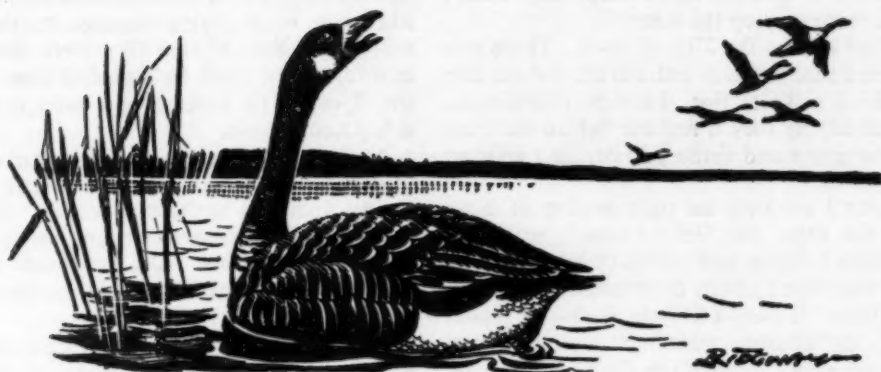
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Kirby's Gander

JOHN PATRICK GILLESE

I WAS grabbing some air outside the Cavu Club when, far above me, I heard the slow clang of geese bucking head-winds, winging north. Ho-woak—clang! Oak-woak—clang! Like wild bugles in the night.

'That's the old gander,' a voice said behind me. 'Cheering 'em up—keeping them going.'

I turned and saw a big, broad-shouldered fellow standing in the shadows. I sensed he was the bush flier Mike Farrell had told me about. The one who was marooned at Moon Lake, 300 miles this side of the tundra, for five and a half months. 'You're Kirby? Red Kirby?'

'That's right, kid.' The man flipped his cigarette into the dark and looked up at the velvet sky. It tasted like rain. 'And some of those guys up there—maybe they know me.'

I said nothing. Kirby smiled faintly. 'New, aren't you?'

'Just got my licence. Jim Morrison's my name. I trained under Mike Farrell.'

'You'll do, then,' Kirby said. 'And it's a good life you've chosen, kid. Sometimes, though, you'll get a funny feeling flying over that bush. There's a million square miles of it. But if you ever have to land, just remember

that any man who keeps his head and makes the most of his emergency supplies can survive indefinitely. The one thing you have to worry about is the loneliness. You have the feeling you're the last person alive in creation. That's why guys get crazy notions, like trying to walk out. Don't ever try it, kid. The muskegs, the lakes, the mountains—ugh-ah. Stay put, kid. Get your mind on something else.' Kirby paused. 'Normally,' he went on apologetically, 'I don't talk like this. But sometimes on a spring night—when I hear them calling—I like to shake it out of my system. If you're in a hurry to get back in there—'

I said I wasn't; and Kirby proceeded to tell me about his gander.

I WAS four hours out of Edmonton (Kirby said), headed for Great Bear, when I knew I'd had it. Lost my oil—I never did discover how—and when the engine seized I got all the speed I could, trying to make a flat plateau lying south of Moon Lake. Couldn't do 'er, though, so I did the next best—came in-wind, making for the uphill slope to the east. There was an avenue of scrub poplars there—

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knocked the wings squarely off the old Norseman and slowed her down beautifully. Didn't even have to chop the door off.

That was on the 27th of April. There was the odd patch of snow left, but around the lake the birch had pink tips. I noticed that because I was hoping they'd find me before the bush got so green and dense you couldn't spot an army in it.

After I got over the tight tension of those first few days—you feel the search-parties are up there looking, and you're on edge to make sure they don't just fly close and then pass on, you know—I spent a while exploring the region and, of course, watching the waterfowl coming back. Except for the Canada geese, who have long memories where man is concerned, nothing paid the slightest attention to me. Even the geese were hard put to reconcile my presence in their age-old breeding-grounds.

Take the morning I saw the timber-wolf. I'd gone down to the inlet to throw in a spinner for a trout, and there was this big black bruiser pawing on the shore weeds. He opened his mouth, lolled his tongue like a dog, and bounded toward me. For a minute, all I could think of was the '22 back in the tent. Then he spotted two muskrats slashing the hides off each other farther down the shore, and away he went. He was only curious, you know—I suppose I was the first man he'd ever seen. Crazy devil started following my tracks all over the place after a while, picking up any fish and partridge offal I threw away.

But it was the waterfowl that really intrigued me. At the time I crashed, millions of them darkened the fly-ways, each flock headed unerringly for the lakes and marshes and rivers of their birth. Moon Lake was black with them—mallards and lesser duck breeds mostly—and at night you couldn't sleep for the din.

A couple of hundred Canadas, though, were the real overlords of the lake; well-bred, keeping to themselves; never updignified, like the quarrelsome ducks. I figure all the honkers there were related to one big gander and his mate. Old Abraham, I named him—and, mister, that gander was the grand-daddy of all wild geese. Remember the twenty-two-pound flock leader some fellows shot in Manitoba in '43? Well, he had nothing on old Abraham. I'll bet that gander had been winging back and forth to Moon Lake for twenty years.

And respected? Say, all the geese on that

lake knew him. Whenever any of them passed by they dipped their beaks in the water, sort of like they were paying homage to the old patriarch. Sort of like they were thanking him for all the times he'd guided them down the fly-ways to Mexico and brought them safely home again.

As the days went by, of course, the waterfowl got over the excitement of homecoming and set about the business of nesting. Then it was mostly drakes you saw, or Canadas that had lost their mates. Did you know if one honker dies or is killed the other one never mates again?

One morning, when I was fishing a cove on the north side of the lake, I suddenly spotted Old Abraham's mate pulling dry grasses for the nest. An abandoned beaver-works broke the spring winds that swept across the waters, and from the ridge a nice sun-trap sloped down to the reeds. The actual nesting site was about three feet from the water's edge—a hummock of withered goose-grass.

Fifty feet out Old Abraham tacked casually about—those bright eyes weighing every move I made. I slipped quietly away—didn't want to molest them at this stage. Every day after that, though, I crept back to watch them.

The routine of the geese never varied. Old Abraham reminded me of a battleship, cruising back and forth, always the same distance from the water-line. His mate never left the nest, except for a half-hour every afternoon when she unkinked and fed. If a mink or some other prowler got too close to that she-goose she gave one quack—one long hiss—and the battleship went into action. It was the most fascinating sight I ever watched.

THEN one morning a drizzling black rain confined me to the pup tent. It was the nineteenth day, and I realised then they weren't going to find me easily—if ever. That's when I started thinking—desperately. About the geese, I mean.

You see, I'd always liked honkers. When I was a kid on the farm I used to envy them flying over in the fall, then back again in the spring. To me, they were the symbol of everything orderly and free. And I'd read bits about them. Some scientist—Austrian, I think—discovered that the young geese have a fixation complex. First living object they see stirs an emotional attachment in them. Normally, that's the mother. But it might be

KIRBY'S GANDER

a cow or a man, or even a cat—which is why, even among domestic geese, you'll sometimes see one that's happier following an old horse around than being with its own kind.

The more I thought of it, the more the idea obsessed me. Even if I was stranded there three years, wouldn't it be something to live for, I thought—just to have those geese clanging down out of the sky to me each spring again?

I waited a couple of days more, to be sure Old Biddy was really nesting, for if they're still laying they won't think twice about abandoning one nest and starting another. Then, after another bleak night of rain, I couldn't put it off any longer. I headed for the cove.

The minute I stepped out on that beaver embankment I'll swear the geese sensed what was up. Biddy ducked her head into the butter-grass and hissed the alarm. Old Abraham came at me, wings out, beak open.

The minute he flapped ashore I threw my flying-jacket over the old boy's head and tackled. That's when I knew his weight and strength. Inside two minutes he'd got one wing free, and I couldn't see for blood. Then I sprawled on the wet reeds, and the old rascal got his neck out. Ever been bitten by a goose?

I got him, though. I finally pinned those big wings under my left arm, and, with the big neck stabbing like a snake, I walked over to the nest. His mate flopped off, scattering gray eiderdown over the seven big eggs. I let Old Abraham see me handle them. Then I backed up and let him go.

He jumped right back at me, feathers dishevelled, eyes suffused with blood. Then he gave a hiss and jumped into the water. Out on his patrol-line, he threw me one last dirty look and a hiss, then rose on his rudder to straighten his feathers.

It began to drizzle again. Now, I wondered, would Old Biddy abandon the nest?

For half-an-hour, while I huddled on the beaver bank, praying, she sat motionless in the water. With each passing minute I was getting more scared those eggs would perish.

The same thing must have occurred to Biddy, for she turned slightly and started talking it over with the gander. For fully five minutes more they exchanged agitated quacks. Then, I presume, the old boy told her to get back on the nest and start incubating. Anyway, she waddled ashore and bent her long neck, to turn the eggs. Then, with her black

feet well apart, she stepped up on the hummock and squatted. It was like an omen, the way the shower stopped and the sun broke through.

Even so, I had two more wrestling matches with the old gander before the geese accepted the inevitable. Then, as if it was the most natural thing in the world, they permitted me a daily inspection of the eggs.

THE hatching was about four days off—as near as I could calculate—the morning I looked out of the tent to find a thin mist spiralling up from the lake. Damp weather is depressing when you're in the woods alone, and I was all jumpy, without knowing why. Finally, I grabbed the '22 and headed for the cove.

A hundred yards from the nest I could hear a fearsome commotion. Soaked to the skin, I pushed through the scrub bush, unable to comprehend what was going on. Feathers and loose hair and old grass were floating in the mist, and occasionally I could see the angry head of the old gander popping above the embankment. That crazy timber-wolf and Old Abraham were battling it out.

The wolf was leaping high, trying to snap the thick black neck. Suddenly he changed tactics, closing his teeth on the gander's left wing instead. Old Abraham quacked in dumb agony; then came in on the injured wing, buffeting the wolf with the other. The black devil yowled in his throat, but he wouldn't let go, though the one-winged threshing he was getting sounded like someone pounding a rug with a broom-handle. He began to shake his head madly, trying to rip the wing off; and the gander, hurt though he was, stabbed about the face with his open beak, trying to get the eyes.

I would have shot sooner if I'd had the chance. The wolf turned around, almost stupidly, then staggered to the bushes. He fell on his side, and you should have seen his face. One eye was a bloody pulp. The other was filled with dumb surprise—whether because of the gander or the shot, I don't know.

For Old Abraham, it must have been the toughest fight he'd ever had. Almost exhausted, he stood with his legs apart, his curved neck resting on the grasses. He never protested when I carried him to the water—just lay heavily in my arms, blinking his eyes in pain.

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Then I saw a thing I sort of had no right to see. Old Biddy rose off the eggs—the first time I'd seen her voluntarily break her routine—and flopped across to her wounded mate. She quacked softly in her throat, caressing the white patch on his cheeks with her beak.

The gander sat there stolidly—maybe the pain was that unbearable; maybe his pride in his own strength was gone—and that seemed to send her into despair. She talked away, soft and pleading. Maybe telling him about all the pathways they'd flown together—about the good times they'd shared. Anyway, when I came back that afternoon, they seemed to have found a certain peace again.

I MOVED the tent and what was left of the emergency supplies—a couple of chocolate bars I'd been saving for the day they found me, fire-tablets, mosquito-hood, and stuff. I also had a coop I'd made from the aluminium of the plane—hacked it out with the axe and knife, and jabbed plenty of air-holes in it. I wasn't taking any chances on those goslings not getting well acquainted with me.

As near as I could reckon, they were hatched on the 12th of June—and by then the days were warm and perfect.

Two of them were already out of the shells when I got up with the sunrise. That part of the day's chilly, though, even in June; and I didn't dare keep old Biddy off the nest just to make sure the others saw the right thing first. Old Abraham hunkered right beside me, his left wing trailing stiffly on the soft new grass, unable to keep away at such a moment.

Every so often I'd push my hand under Old Biddy's feathers—ever been bit by a she-goose?—and pull out a sticky little yellow gosling. It would reel around on the palm of my hand, weaving its chunky little wings for balance. Old Abraham would quack softly to it, Biddy would whisper in her throat, and I'd get in my pleading: 'Goo-goo-goosie!' I held the gosling in various positions, so it would get a good look at me. I even broke the chocolate bars into small pieces and tried to get the goslings to eat, but they weren't interested. The long-hoarded bars weren't wasted, though—Abe and Biddy picked up the pieces with relish.

After the sixth egg hatched, the she-goose waited for half-an-hour, then stuck her head out of sight, listening for life-signs in the seventh. At last she got up and rolled it out

of the nest; as far as I could determine, it must have got chilled. Then, with the gander marching ahead—proud despite his wing—the mother shepherded the six young into the water. Those little beggars hadn't eaten—they could scarcely stand on their legs—but they swam like veterans. Funny how proud a man could feel, too, about a sight like that.

When it came time to come ashore, I could see the old honkers had plotted this moment beforehand and were trying to pull a fast one on me. They headed for the reeds a hundred yards from the nest.

That moment was about the lowest I'd had since the crash. I can tell you right now I had no faith in science as I stood there calling softly: 'Gee-gee-geese! Come, little goosies—gee-gee-geese!'

Now, I expect my voice had nothing to do with it, except to tell them where I was. At any rate, the Austrian knew his stuff. Four of them came peeping through the reeds to my feet.

Abraham and his mate talked the business over in plainly perplexed tones; then, with the other two young, they waddled, sort of philosophically, toward me. I put them all in a box for the night and weighted the top with a rock. The old geese didn't like it a bit. Abraham gave me the very devil of a nip on the thigh—he was kind of peeved at me for outsmarting them, I think.

IT'S hard to tell the sex of a gosling, so I named my four: Tiny, Sally, Pedro, and Joe. Pretty soon I had a hard time getting away from them, to rustle myself a fish or a grouse. The other two, mind you, accepted me—but the only time my four seemed happy without me was when they were in the water. In a couple of weeks they were big lumps, their backs turning a definite dark in colour; running madly over the water, little wings flapping when they were frightened. Each morning they left for the sedges, where the older Canadas tipped in the shallows or pulled new goose-grass, feeding. Each evening—whether they led the old geese or the old ones brought them I was never sure—they swam across to the cove, little wings spattering the water-top the moment they sighted me. The smallest one used to squat on my shoe and, after a while, it would even sit there while I walked carefully from the shore to the coop beside my tent.

KIRBY'S GANDER

Pretty soon I lost all track of time. I knew when it was midsummer, for the dews fell heavily; and, instead of it getting dark at night, there was a brief twilight, with pale green skies, broken with a big orange welt where the sun had gone down. A dense growth of vines and leaves completely covered the Norseman, and at night you couldn't sleep for the sticky heat and the monotonous drone of the mosquitoes. Returning to the plane one day, I looked at it almost as a caveman might. It was hard to believe that once it had carried me farther and faster than ever the wild geese fly.

Ten weeks after they were born my four little geese were nearly as big as the old ones, and naturally I had to stop putting them in the coop at night.

I don't suppose I could have raised those goslings to young adulthood without Old Abraham. At first there were the pike, lying in wait in the wind-riffles. Old Abe knew the toll they take of young waterfowl; and when the geese swam in dangerous waters it was in convoy formation—the gander calling the warnings, going into action like a depth-charge when one of those raiders streaked upward. Between us we finished a killer mink that worried the geese for a week: Abraham beat him up in the reeds; I shot him when he crawled ashore. And there were a couple of falcons that used to sit like black stubs on the trees, striking down the first goose that attempted to fly across the lake—I got them too. Sometimes Old Abraham would turn there on the waters, stretching his left wing, as if acknowledging my help. I hardly felt free to leave the shore for more than a couple of hours at a time.

ONE afternoon, as I sat there, feeding, I realised that August must be coming to an end. There was a blue over the lake and the hills that told me it was the end of summer.

Suddenly from the lake below me came the sound of Old Abraham trumpeting. He knew the signs, too, and he was marshalling the young to try their wings.

I walked across the plateau and looked down on the cloud-blue waters. Young ducks were skip-fighting lightly around the edges of the lake; and in the wide centre the parent geese were lined up, each family in its own strip, the young between the parents.

Abraham and his brood were in the very middle of the waters.

'Oak-woak-honk!' After weeks of muted talking it was spine-tingling to hear the bugle-call again.

The young geese, swimming fast, spread their wings, spattered with their feet—and rose in heavy, wobbly flight into the wind—then, gaining altitude, up and across the lake and around and around the smoked sky, in an ecstasy of freedom.

'Honk-woak-back!'

And obediently the young banked in the sun, wings stiffening to break the heavy landing. They skidded a bit in the water, then lined up in formation again, impatient for the starting-signal.

When I edged down through the dry bushes to the south of the lake, my four—Tiny and Sally, Pedro and Joe—wheeled toward me noisily. They landed out in the deep water, then swam over the shrinking shallows and darted through the cat-tails, to talk to me. They were so eager to tell me about their joy! Little Tiny climbed up on my boots, flopping her wings against my legs, almost as if she was showing me.

You know, it seemed sad to think they were grown so soon—the spit and image of the other Canadas. Except at heart, they were still little goslings—getting wary, sure—taking their turns at sentry duty at night, but still eager for the caresses of babyhood.

I stooped to stroke them each in turn, and then from the middle of the lake came Old Abraham's stern and strident command, angry in its undertones. 'Honk-woak—' and the deafening, stirring clang that rolled deep into the silent hills. He was telling them the time for play was over. The days for stern discipline had come.

Obediently, my four young honked back, their voices still without the trumpet note. They looked up at me, intelligent black eyes shining—unable to comprehend why their loyalties should be divided.

'Go on, little ones, back to your soloing,' I said to them, each in turn. 'I understand—after all, I found my own wings once too.'

SOON there were unmistakable signs of fall in the air. The orange-tipped flies and the big black mosquitoes were gone. Strong dry winds broke what sedges the geese hadn't trampled. One morning the hills to the east

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were visible through the thinning trees. And it was getting chilly in the tent at night. With the axe I began throwing up a notched-log cabin, using rocks for a fireplace and a slope of dirt and boughs for the roof.

I was so busy on the cabin—maybe I wanted it that way, subconsciously—that I missed a lot of the doings on the lake. But not for one minute was I unconscious of the waterfowl starting to go south, high chains and arrowheads in the dry blue skies again. The ducks were thinning on Moon Lake, but not a goose had left—on account of Old Abraham's wing, you see.

I had almost forgotten about that, till one day the geese went into a regular emergency session. By now all the young adults were taking long flights daily, filling the sky with bugling—the real sign of their coming of age.

But that day, old and young alike were lined up in the middle of the lake—like a troop of honour on a runway. Abraham and his family were at the north end, and you could see this was a grave moment.

Old Biddy, this time, sounded the take-off call. The eight of them swam like mad, splattered with their feet, lifted with their wings—but only seven of them got into the air. Abraham's left wing just wouldn't support his weight.

The reaction of those geese almost unnerved me. The older ganders—the flight guides, I had them figured as—honked and conferred, seemingly like they were encouraging Old Abraham not to let this thing get him down.

The geese huddled all that day, and with the next morning they were trying it again. For a whole week they encouraged and rallied Old Abraham, but it was just no use.

FINALLY, on a day when the wind was tearing the last leaves off the scrub and making madcaps on the water, and the Canadas were honking to other geese passing high over the ridge, I heard the greatest gander clang in all the world. That day, even with the wind, it would have deafened a bull moose bellowing.

Right away those agitated geese lined up respectfully, the wind pushing their back feathers up; and for an hour, like a king battleship—head up, voice strong—Old Abraham tacked and wheeled in their midst. I presume he was appointing a new flock

leader and sort of taking farewell of all the old guard who'd flown with him.

At the last, he swam in front of his family, taking leave of them one by one. Each answered him respectfully.

Then he went to his old mate—remember I told you wild geese mate but once—and they rubbed white cheeks together and conferred a while.

Then he swam strongly to the rear, and all the geese on the lake began to regroup.

This time, another she-geese gave the take-off order. The ganders flapped and rose, the young followed, the females taking off last. They circled the lake and formed into a broken-arrowhead formation—a sure sign they're going some place.

They flew south over the ridge, then suddenly the new lead gander clanged and they circled back over the lake, flying low. 'Honk-woak-honk!' It was their gesture of farewell to Old Abraham.

The old gander kept watching them, motionless, long after I could not see them any more.

I called over to him then. I told him that, together, we'd make out all right. That I'd keep a clear spot chopped in the ice all winter. That in the spring his flock would return, and his wing would be O.K. again.

But it seemed he didn't want any of me then. He looked at me oddly, almost as if seeing me for the first time. Then he swam southwest across the lake, stretching his wings and tucking them against his sides, and disappeared into the broken reeds.

'THREE weeks later,' said Kirby, beside me on the grounds of the Cavu Club, 'they came in. I was settling down to a roast of young moose when I heard the motor right smack across the middle of the lake. I'd almost forgotten my pile of signal wood, but I didn't really need a fire. They saw me running down the slope.'

Kirby fished in his pocket. 'You know, it's funny, but when they gave me this I felt like a forgotten old man who's just got a letter from one of his kids.'

He handed me a small piece of aluminium, easily rolled. I held it up to the light. Three words were punched on it, as if with a shingle nail. **KIRBY—MOON LAKE.** And at the bottom there was a small 't.'

'I banded all six of the young, as well as the

WINTER CRICKET-FIELD

two old ones,' Kirby said. 'This is the only tag turned in; they got in when they picked up some geese for banding, on the Wildlife Refuge, near Herrin, Illinois. You know, I often think those little geese understood what I tried to do? They're so intelligent, you know. Those four will never forget me as long as they live. That's just the way geese are.'

I cleared my throat hesitantly. 'This small "t"—what does that stand for?'

'Eh?' Kirby had been listening again. 'Oh, I put the initials of my four on their tags. That was little Tiny's band—the one who used to sit on my shoe.'

I returned the tag to Kirby. He put it in his pocket, carefully, and strolled back to the shadows.

I went into the Club.

Mike Farrell was over at the counter, finishing a Denver with pickles. He was Kirby's buddy—the pilot they sent in to bring him out. Farrell had been stranded for ten days himself once.

I sat beside him and ordered coffee. 'Kirby

told me the story,' I said. 'It's hard to believe.'

'It's true all right.' Farrell carefully speared a pickle. 'We had the devil's own time getting him to leave—said he had to stay and keep the ice open for some bloody great gander. Begged us to go away and come back and get him in the spring. Insisted he was in good shape—and he was, physically.'

Farrell got to his feet. 'He showed us the coop and the old nest—even tried to get the gander to come out of the reeds for us. It's pretty hard to understand, unless you've been down yourself. That's why,' he went on meaningly, 'nobody ever tells Red the truth about that tag. It wasn't taken off in a banding-station at all. A farm kid near Vulcan shot the young goose out of a flock in a wheat-field. His dad turned the tag over to the R.C.M.P. It told quite a story to us. We asked all concerned to co-operate on where the tag came from—just as a precaution. A thing like that might make an awful difference to a guy's recovery. To Red, those little geese were like his own family then.'

March First Story: *The Gamblers* by L. Duxbury.

Winter Cricket-Field

CLIFFORD LANCASTER

THE sleet, driving down with the weight of the westerly gale behind it, drenched the deserted field; and the wild winter evening, setting in quickly, had hidden all but its sharpest outlines from view. The gate at the entrance creaked on its hinges and the chain securing it chattered noisily in the darkness. Yet, notwithstanding the weather, which encouraged those returning home to greater speed, I could not refrain from trying to see over the hedge. It seemed to me almost

incredible that only a few short months ago this darkened, storm-battered field had been full of excited noise, and that white-clad figures had moved over its sun-warmed green surface.

In the few seconds which it took me to pass the deserted cricket-field it seemed that the whole of several summers flashed across my mind. The roaring darkness, the icy rain, and the air of loneliness which surrounded the lane in which I was walking disappeared as

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if by magic, and high summer was back again.

WHEN the cricket season is at its height there is no pleasanter cricket-ground in the country than the field at Dorniton. It is bounded by a gentle rolling hillside to the westward and a small stream to the east, and the games played here are in character with their surroundings—calm, unhurried, and conducive to all the best which village cricket has to offer. Filled with summer sunshine, it is a delight to the eye. The warm hills seem to look down upon it with kindliness; the springy turf kept close-cropped by sheep—we scorn the use of motor-mowers—is pleasant to sprawl upon when a wicket has fallen; at its eastern end the streamlet chuckles and laughs in its shingly bed, and if long-on in his anxiety to catch a high spiralling ball runs backwards too far and falls into it, it seems to laugh the more.

We do not specialise in the fielding-positions here and long-on can soon be pacified by the promise of fielding somewhere else next over. Still, ours is a friendly ground and there is no shortage of volunteers for the position, as when we bowl from the end nearest to the stream it is close to the tiny pavilion where the ladies of the village choose to sit. Furthermore, by moving round a few yards, the fieldsman can station himself in front of the little green-and-white hut where the sandwiches are cut and gallons of tea are brewed in a copper urn, resembling, in size, a small barrel.

But after a certain sad event last summer it has been decided to send only men of iron will and determination to field near the refreshment hut. We still remember with sorrow a certain Saturday afternoon when our nearest neighbours, and keenest rivals, Mallingbeck, were putting up an alarming score and their best batsman skied a catch pavilionwards. Our joy turned sour when, looking for the catch, we saw our fieldsman holding a cup of tea in one hand and a chocolate biscuit in the other. Remonstrations were futile; the culprit informed us that he had stood there so long without any prospect of being called into action that he had considered himself a spectator and therefore entitled to the privilege of having a cup of tea when desired. We remember that Hassett on one memorable occasion

dropped two catches within an hour in the awful solemnity of an Old Trafford Test Match and from the bowling of no less a person than Lindwall. Not content with that, he even allowed a smile to pass over his face. So why should we grumble?

IF, however, our fielding is not all that the purists would desire, we take our batting seriously. The nervous nineties hold no terrors for us. Our nervous number is nine. Trembling on the brink of double figures we eschew all our favourite strokes. We refrain from using the scythe-like sweep to leg or the sledge-hammer blow past point, which, when executed properly, would rouse envy in the breast of an axeman in a lumber-camp. We wait for the right ball to come along, intending to push it for a gentle single; but our technique is often not sufficiently advanced for us to recognise it when it comes along, and, alarmed at the prospect of failing to reach double figures, we decide to hit the very next ball to a selected spot in the middle of the next field. Alas, as our middle stump flies out of the ground, we realise that we had chosen the fastest, straightest ball of the innings to hit out of sight! We are disappointed for the moment, but what matter. Sir Donald Bradman has made three hundred runs in one innings and received a welcome no more friendly than we do from the old men of the pavilion.

We have no need to ask the scorer for our total, as in our cricket we perform the double feat of batting and mental arithmetic at the same time. Nevertheless, we keep a suspicious eye on the number which is unearthed from the struggling mass of small boys who fight for the honour of putting the tins on the board, and anxiously await the total which is placed alongside 'Last Player.' We are doubtful of the ability of the old men with failing eyesight and stubby pencils who sit in the score-box. If '9' appears we are satisfied; but let a number less than 9 go up and we bear down on the score-box in argumentative mood and replay our innings verbally and in aggrieved tones. We ask why four runs which came from the extreme edge of the bat have been counted as byes and suggest that if the scorer is defective in vision and hearing he should relinquish the position of trust and responsibility placed on him. But if we have carefully counted 9 and an inordinate number of runs,

say 14 or 15 appear on the board, we hasten to tell the scorer that we are using all our influence with the Rural Council to have the leak in his roof mended with all possible speed. Once the question of accountancy has been settled, we are free to perform a feat which, as far as we know, has never yet been achieved by Sir Donald. We can walk right round the field and pass the time of day with every one of the spectators without a single person demanding our autograph.

AS the season moves on, we begin to think with a certain tinge of sadness of the approach of the final game. Somehow, during the last match or two something is lacking in our enjoyment. Maybe it is the thud of boot on leather in the next field as the great god 'Football' begins his ruling sway, or the extra sweaters, or the appearance of brown leaves in the outfield.

The ending of the cricket season has its place in the wider scheme of things. It is the symbol which denotes the passing of summer

and the onset of the long winter. And now, as I walked slowly past the field, the ghosts and memories departed as quickly as they had come. I saw the ground deserted and neglected. The pavilion, with its lingering smells of creosote and linseed-oil, is barred and shuttered; the tins are put away and will lie undisturbed at the bottom of a clutter of tarry nets, broken bats, and scarred balls in the locker, on top of which lies a discarded boot, no longer white and with most of its spikes missing; field-mice nest comfortably under the floorboards. And outside the screens, woefully inadequate, but complying with convention, show deep, grimy streaks running down their once-gleaming faces. The wind wails through the tops of the trees and brings down dead branches to join the mulch below. The wet, dank grass is punctuated by eerie gaunt stumps which, linked together by strands of rusty wire, mark off the area of the wicket, its surface no longer trodden by eager running feet or torn by sharp spikes. A cricket-ground in midwinter is no place for a cricketer to gaze upon.

Zoonoses

Human Diseases Due to Animals

Dr F. R. C. CASSON

THE lifting of the Ministry of Health embargo on the import of birds of the parrot species as from 8th January this year has reminded some of us of the scare which led to its imposition some twenty-one years ago. Polly, preening herself in her cage, had up till then been accused of nothing worse than an occasional outburst of profanity, but about 1930 a widespread epidemic of sudden illness and a high percentage of deaths among parrots and their owners led to the recognition of psittacosis, a virus-type of broncho-

pneumonia, which parrots can develop and transmit to humans. The ban on import of parrots has been raised because it is now known that other birds, like sea-gulls, pigeons, ducks, and turkeys, can carry the disease, which has now been rechristened ornithosis, and because its incidence has mysteriously fallen off. There was only one death from it in England and Wales in the past ten years. The new antibiotics, like penicillin, are also very effective in its treatment.

Even with the bogey of ornithosis out of the

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way, as regards this country, there remains a formidable list of zoonoses, to use the technical name for those diseases handed on to human beings by vertebrate animals, domesticated and wild. An expert joint committee of the World Health Organisation (WHO) and the Food and Agriculture Organisation (FAO) issued a report on the zoonoses, in December 1950, which lists over eighty such diseases. The most diverse creatures can convey disease, but the most frequently incriminated is the dog, with a score of thirty-nine. The cat is responsible for twenty-two and the horse for fourteen. It may be said at once that most of the zoonoses are rare, and that very few of them are of serious importance in Britain.

FAR and away the most serious source of animal-to-human infection in these islands is the cow with bovine tuberculosis, which is still much too frequently spread by milk from infected animals, especially to children. Direct infection by means of droplets of sputum or discharge from tuberculous lesions, which lurk in the dust of barns and cowsheds where diseased animals are housed, may also affect farm-workers and their families, children again being especially liable to infection. With the increasing number of cattle in accredited tuberculin-tested herds—now well over two million—it is to be hoped that this source of infection will fairly soon be a thing of the past; it is now one of the most shameful matters in which we lag behind the United States and Denmark. Transmission of tuberculosis between cow and human is a two-way traffic, for it has been found that clean cows in a tuberculin-tested herd may become infected by farm-workers suffering from open tuberculosis; they may also be infected with avian tuberculosis by diseased poultry, and perhaps by wild birds, feeding on their pastures.

Undulant fever, which produces contagious abortion in cows and pigs, is said to affect some eighty per cent of the milch-cows in the United Kingdom, but they do not always excrete the organism in their milk. It may, however, be transmitted to man and give rise to protracted illness, and cause fatalities, and also abortion in women. It is destroyed in the milk by boiling or pasteurisation. It is allied to the *Brucella* infection called Malta fever, which occurs in sheep and goats and is a serious cause of ill-health in the Mediterranean

region. Both with tuberculosis and the *Brucella* infections, the incidence of the disease among farm animals reduces fertility and milk-yield, so these diseases cause a grave loss of prosperity to the community, apart from spread of illness.

ALL over the world man may become infested with a large variety of parasitic worms by eating the raw or imperfectly-cooked flesh of many sorts of animals and fish. It is estimated, for example, that a quarter of a million Finns are infested with a tapeworm derived from fish. In this country, the most risky uncooked meat is pork, especially in the form of sausages and hams imported from the Continent, for it may contain the encysted form of *Trichinella spiralis* and give rise to trichiniasis in man, usually a non-fatal, but an unpleasant, illness. There was an epidemic of about five hundred cases in the Wolverhampton area in 1941, but luckily there were no deaths. A more serious danger from uncooked pork, especially in the tropics, is cysticercus disease, which may result in cysts forming in the muscles and brain of the human host. Epilepsy developing after service in India by our troops was frequently found to be due to the cysticercus parasite.

Most diseases passed on to man by the dog are parasitic worms, few of which occur in this country. There are usually, however, two or three deaths each year from hydatid cysts, which result from the eggs of a worm with which the dog is infested being conveyed to the man and swallowed, either by allowing dogs to lick one's face or fingers or by eating unwashed salads previously contaminated. The parasite develops in the human host, forming one or more cysts which may attain the size of an orange, and, depending on their location, in liver, lungs, or brain, these may produce serious or fatal results. In some parts of the world the disease is endemic, and its control is being aimed at by rounding up stray dogs, shooting jackals and wolves, and persuading dog-owners to have their dogs properly treated with an anthelmintic, a 1 per cent aqueous solution of arecoline hydrobromide: this method has been tried out in parts of Argentina.

PROBABLY the most widely-known disease transmitted to man by the dog is rabies,

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or hydrophobia. It can be transmitted by cats, and an outbreak in Trinidad in 1931 was traced to vampire-bats, but the Canidae—dogs, wolves, and jackals—are mainly responsible. It is virtually unknown in the United Kingdom, due to the stringent muzzling and quarantine measures introduced since 1897, though the natural reluctance of air-crews to leave their doggy pets behind overseas or subject them to the usual quarantine may yet result in the sporadic case occurring here. It still occurs in Europe, Asia, and the Americas. The basis of treatment remains that instituted by Pasteur, producing an artificial immunity in the bitten person by injections of the spinal cord of a rabid animal dissolved in saline. A quicker method now is by giving an immune serum, and there is also a vaccine. It has recently been reported from Israel, by the Chief Veterinary Officer of WHO, Dr Martin M. Kaplan, that an anti-rabies campaign started there in October 1950 has already reduced the number of cases in animals from an average of a hundred a year previously to ten in a period of fifteen months; human deaths were twenty between 1948 and 1950, and in 1951 there were none.

In Persia, where the bites of rabid wolves in outlying districts carried a 30 per cent mortality, it is planned to set up an air service by which serum and vaccine may be distributed throughout the country to deal rapidly with cases that would otherwise succumb to the long delay in obtaining medical treatment.

The bites of rats and ferrets may cause illness, too, in the form of rat-bite fever. It is not unknown for cats that have been good ratters to become infected and transmit the disease to man. Cats have claws as well as teeth, and on occasion they use them on their fond owners. During the past twenty years an illness known as cat-scratch fever has been reported from different parts of the U.S.A., from France and India, and recently two cases have been noted in London. It is characterised by fever and enlargement of the lymph-

glands draining the scratched area of skin. So far the source and nature of the infective organism have not been identified, though it is suspected to be a virus.

Rats and mice carry a variety of diseases. There is a severe type of jaundice, caught by man from rat-contaminated sewage or water. Sewer-workers and miners are apt to be infected, but it can also be acquired by swimming in canals or stagnant ponds.

INSECTS that have bitten an infected rodent may later transfer their attention to man. This is the method by which that prototype of virulent disease, plague, is spread, for the fleas of the plague-infested rat leave its body when it dies. Plague is still endemic in parts of Europe, Asia, and South America, and control of the rat population is one of the most important measures in modern attempts to stamp it out. Various types of scrub typhus are also spread from rodents to man by fleas or lice, as our troops found to their cost in Burma and Malaya.

Anthrax infection of the skin and lungs is still an industrial risk in this country for those who handle imported animal hides, wool, or hair. There are now only one or two deaths each year from this disease, due to stringent regulations imposed on the countries of export. It is well known that shaving-brushes made from badger-hair are safe from anthrax, as that animal is immune to it; but any hair properly sterilised is safe.

Some forms of ringworm can be picked up from farm or domestic animals. When these are transferred to man they are usually very irritating and inflamed, whereas they do not seem to bother the animal much.

Altogether, it may be seen that man shares not only biological but also pathological kinship with the animals. In this common liability he has to strive not only for his own relief but also for the relief of his dumb co-sufferers.

In Dublin's Fair City

*Old Ireland is a lovely land where memories are green
And the only things that men forget are the days that haven't been.
In fact, we're all so busy, sorr, in thinking of the Past
We don't bother with To-morrow, for we know it cannot last.*

C. T. YELLAND.



The Cliff of Sacrifice

ALAN C. JENKINS

ALL this happened many years ago, yet the grandchildren, with grandchildren of their own by now, of the men whom it concerned are still living in the village of Kaal-lavarr, which lies up on the sixty-ninth parallel.

Anta Jalvi lay sick unto death on the piled reindeer-skins of his tent. No man could tell the nature of his illness. Many remedies had been tried and all had failed. He had been bled, to no purpose. Through a tube made of swan's bone, Marja, his wife, had blown an infallible powder of secret ingredients into his throat, but the fever mounted until Anta was racked with pain. Thereupon Erkki Jalvi, renowned for his skill in such matters, had massaged the sick man's body: when he was confident that he had caught the evil in his fingertips, he had blown it away—but, alas, it was a very potent evil and had eluded Erkki, so that Anta lay more stricken than before and the smell of death pervaded the tent.

Anta stared up through the smoke-hole and knew that he was gazing on the Pole Star for the last time; the shouting of the herdsmen and the ceaseless clicking of reindeer-hoofs from the stockade where the herd were being driven he would never hear again; he would

never again fling a lasso, never again haul in a seine-net. . . . As these lonely thoughts dinned in his mind, thunder growled in the distance, the thunder that so often accompanies the change of seasons in Lapland, and at this omen Anta struggled up on one elbow, his eyes dilating.

It is when a man lies dying that his faith is tested most crucially, and in Anta's case it was found wanting. Though he had been baptised in church and had attended Holy Communion as regularly as his nomad ways would allow, this faith slipped from him like a cloak, and without it he huddled there shivering in mortal terror, for the voice of the thunder had called him back to the ways of his ancestors.

Had he sinned in accepting the faith that strangers had brought to Lapland? Were the gods now wreaking vengeance on him for his neglect of them? What awaited him in that dark unknown that lay beyond the ultimate closing of his eyes? His father's people had made dutiful sacrifice, and had prospered. They had smeared the sacred sieide-rocks with the fat of animals; brought tribute of fish to crave for fishing-luck; in the waters of Pahtajärvi the whitened bones of reindeer that had been cast in offering from the towering

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Cliff of Sacrifice were still visible. Should not he, Anta Jalvi, do likewise and offer a reindeer to propitiate the gods?

The thunder growled across the fells.

Urgently Anta sent Marja to fetch the *noaide*, the sorcerer, the shaman. He would know, he would divine the illness and say whether the gods were displeased and what sacrifice would be acceptable. In health, Anta Jalvi would have spurned the thought of trafficking with the shaman; now, at death's threshold, surely it was meet for a man to remember the customs of his fathers.

So, in answer to the summons, Nuvte Juffu, the shaman, came with his birch-log drum and, squatting by the fire, began to recite his magic incantation in an attempt to divine the nature of the sickness and learn the pleasure of the gods.

THOUGH the womenfolk had, of course, been sent away, many men, coming in from the stockade, had crowded into Anta's tent to witness the ceremony of divination, and they squatted cross-legged and silent on the birch brushwood, with the firelight flickering on their tense faces and their beribboned four-cornered hats casting eldritch shadows on the soot-coated walls.

To all, it was evident that Nuvte Juffu was a man who could see things other men were not privileged to look upon—and, indeed, had not his father before him been a renowned shaman, so powerful that he could rot a tree merely by looking at it? A distant, abstracted expression filmed the shaman's eyes that lurked between their smoke-wrinkled lids like furtive creatures in front of their lair. Convulsively a desiccated hand wielded the hammer of reindeer-bone. Obediently the brass rings leapt hither and thither across the skin—taken specially from a *stainak*, a barren cow-reindeer—on which magic symbols were painted with the dye of alder-bark. From one red symbol to another they jinked and rattled—from the symbol of church to the symbol of disease; from the Moon to Tavaj, the god of fishing; thence to the Sun, mother of all animals; on from the symbol of reindeer to the symbol of Tirmes, great god of thunder . . . hither and thither the bunch of rings danced.

And as the monotonous voice of the drums echoed out in the tent and the brass rings jingled, the sorcerer's eyes rolled hectically, he whistled like a night-bird, his teeth clashed

like river-ice in spring, froth appeared on his lips, and the watching men leaned forward tensely, their breath came noisily, some even moaned, and the sick man trembled in fear and hope—for it was apparent that Nuvte Juffu was about to embark on his journey to the kingdom of death to wrestle for the life of Anta Jalvi. . . .

However, his departure on this desperate errand was rudely delayed. As the ceremony approached its climax and the shaman swayed in ecstasy, the door-flap of the tent was abruptly torn aside, admitting a gust of frosty air that sent the smoke eddying.

Outlined in the murky light stood Niila Jalvi, Anta's grandson, leaning on his long staff, the ruddy glow of autumn on his brown cheeks, his lasso coiled on his shoulder, the first snow melting on his braided tunic.

There were some who impatiently bade him be silent; others kept silent themselves, for they were ashamed of being found thus, being professed Christians and knowing, moreover, that the authorities had ordered the surrender of all magic drums. Niila stepped brusquely through them and in his anger did not mind whom he jostled. 'What devil's rite is this?' he demanded sternly, a young man whose chin had scarcely known a razor, confronting the shaman, and without waiting for a response he kicked over the magic drum: under the eyes of the watching Lapps he kicked over the drum and thrust his staff through the *stainak*-skin and its magic red symbols.

At this sacrilege there was a murmur of protest, while Nuvte Juffu, turning back on his journey, uttered a howl of demented fury and would have flung himself at Niila had not the latter pinned him off with his staff.

Incoherent in his rage, the shaman cursed Niila Jalvi in a way that chilled men's blood, and as he swayed there mouthing his filth a sudden clap of thunder reverberated above the tent as if to corroborate his words. 'Hear great Tirmes speak!' Nuvte Juffu screeched in triumph, thrusting his livid face at Niila. 'Tirmes speaks. Thou hast offended him. He claimed a deer, but now he claims a man. Thou shalt be the offering to appease him. He will wait, Tirmes is patient as time, but he will have his tribute on the Cliff of Sacrifice,' and, twitching epileptically, unwholesome to look upon, the shaman collapsed at Niila's feet.

Now all Lapps dread the sound of thunder, even to this day, and, in the horrified silence

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that ensued, the men gazed askance at Niila and thought of the terrible curse that had been pronounced. Then one by one and furtively they left the tent, avoiding Niila as they went. Others helped Nuvte Juffu to his feet.

Niila uprighted a cauldron that had been knocked over and spat in the fire.

IN midwinter Niila Jalvi was obliged to make a journey to Hirvasniemi over an affair connected with his grazing-rights. Fantastically lovely with its tracery of frost, its rippling serpents of light, stark night had fallen after a day of twilight by the time he had completed his business with the Finn *sheriffi*. Nevertheless, he decided to return forthwith to Kaallavarr. Niila had been married only these three months, and the hearth still drew him home as surely as the north wind draws the reindeer northwards.

As he fumbled with numbed fingers at the red and blue harness of his three draught-reindeer, a figure sidled up to him through the snow-draped trees, carefully avoiding the light that shone from the frost-scribbled windows of the saloon where other Lapps and Finnish settlers huddled round the iron stove. 'Who is it?' asked Niila, looking up from beneath the furry brim of his cap.

'It is I, Johan,' the newcomer answered furtively, squat and rotund in his *peski*, that voluminous winter-coat of reindeer-skin the Lapp wears.

'Peace be with you,' Niila greeted him conventionally, though he was not glad to see him—Johan Jalvi, a kinsman, but a reindeer-thief, a shiftless scoundrel.

'You must let me come with you to Kaallavarr,' mumbled Johan, rubbing his nose with a mittened hand. 'If the *sheriffi* knows I am in Hirvasniemi he will take me because of Kuusamo's deer that strayed. I could not breathe if they put me between stone walls again.'

'The sledge is not big enough for two,' Niila countered, blinking the frost from his eyelashes. 'I have to take back salt and barley-flour. Also my barrenner is pulling badly. She is lame.'

'Niila, you are my kinsman,' Johan Jalvi wheedled, pressing against a pine-tree as the door of the yellow-painted saloon opened and men shuffled across the verandah. 'Never have I touched your reindeer.'

Niila grunted. 'My dogs and herdsmen guard them too well,' he said, unimpressed by Johan's considerateness. However, in the end he took the wretched Johan. The ties of blood are strong among the Lapps, and Niila was too kindly a soul to refuse to help anyone, especially a kinsman, albeit a rogue such as this. Besides, Niila was at peace with the world. He was going home to Marjatta, his young wife, who even now would be sitting by the tent-fire, splitting reindeer-tendons for stitching the new *peski* she was making, and all the time wondering whether her husband had started on the way back yet. In contrast with the hurting numbness of his limbs, Niila felt a warm inward glow at the thought of all this.

HUDDLED together precariously in the narrow sleigh, the embroidered cape of reindeer-skin tucked snugly about them, the two Lapps drove through the bitter night. The splayed hoofs of the reindeer clicked merrily, a thick powder of frost glittered on their shoulders and on the antlers of the barrenner, the bells tinkled thinly, the birch-wood runners hissed and whined over the iron-hard snow.

The Lapland winter was at its bleakest. The northern lights flickered with ominous brilliance. Their ghostly fingers of blue and green wavered into the sky, crackling out a message of frigid cold and blizzard. Diaphanous veils and streamers rippled elusively backwards and forwards. Occasionally a dazzling arc of light appeared and spread across the bowl of the sky in a trembling bridge of glory—a bridge whereby the ancient gods used to descend to the earth.

Neither man spoke. The cold silenced all conversation with a violent blow across the mouth. The mere effort of breathing was an agony in that searing air, which poured like liquid molten glass into throat and lungs. The inside of their nostrils froze; a band of iron pressed on their temples; the icy hand of the wind fumbled into their clothing; their eyelids grew stiff and heavy as if they had not slept for many nights.

Even thought was impossible. The vision of Marjatta had faded. She had become no more than a mumbling word in Niila's brain. Niila stirred his cramped limbs under the cape. He envied the reindeer running on sturdily in their shambling yet rhythmical gait.

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They ran well and needed little guidance except perhaps when the sledge bumped and crashed over the more chaotic sculpturing of the snow. Sometimes Niila touched one or other of them lightly with his long driving-stock, a slender pole of birchwood, as much to exercise his arm as to direct the reindeer.

Now they were driving across the frozen waters of Pahtajärvi. In the murky distance the Cliff of Sacrifice loomed over the southern bank, a hundred-foot scree that stood out like an ugly snout against the luminous sky. Niila grunted contemptuously and thought drowsily of Nuvte Juffu. However, the cliff meant more than that to him: it was exactly halfway between Hirvasniemi and Kaal-lavarr, and he was glad. Another hour and he would be with Marjatta.

But presently, as the reindeer ran on across the lake, their white scuts bobbing up and down, they began to flick their ears intently and the barrener tossed her antlered head. They began to plunge and strain. Immediately observant, Niila stirred out of the drowsiness the frost induced. He strove to listen above the tinkle of bells and the squeak of polished runners. The reindeer strained onward more and more urgently. From the no-man's-land of snow and night came a quavering high-pitched howl, infinitely sad, infinitely foreboding. The arctic wilderness seemed to grow tenser still. Again the stark lament, a cry of pain and hunger. The bells at the reindeer's throats rang out shrilly as if sounding an alarm. Niila nudged his dozing kinsman. 'Wolves,' he announced impassively.

EVEN to-day wolves are still a grim reality to the Lapps. Winter-hunger goads the pack to desperate boldness and they come ranging out of the great forests of the east. With dog and rifle the Lapps keep guard over their herds, maintaining a ceaseless ski-watch. Sometimes they are forced to daub the reindeer with evil-smelling paste to disguise their scent; sometimes even aircraft patrols have to be ordered out to help them. In Lapland the wolf is not yet a cosy figure in a folk-tale: in Niila's day was it even less so.

At first Niila was not unduly concerned. He knew that other Lapps from Utsjoki were bringing their reindeer to a muster, and it was inevitable that this should draw the wolves thither. After a while, however, as the sleigh swayed and floundered along, he

realised only too well from the growing panic of the reindeer that the pack was on their trail.

That tormented howl had not been repeated. The wolves were hunting in silence now. Somewhere among the dwarf-willows that lined the shore of the lake they would be shadowing along parallel to the course of the sleigh, uncertain because they could smell man, but incited by the warm scent of reindeer. Singly or in daylight, the wolf is a coward. There are Lapps who go out hunting him armed only with their ski-sticks; but at night and in pack-courage, sometimes driven frantic by hunger, 'he burns like fire,' as the Lapps say.

Niila regretted his weakness in giving way to Johan. One man—and a load of barley-flour and salt—was enough for reindeer to pull fast, and, moreover, to his dismay, he realised that the barrener was lame, as he had said. He was unwise to have made that excuse. It was perhaps the lie that had brought on the lameness. The barrener was beginning to hamper the other two animals, strong, nimble geldings. They ran raggedly and grunted as they ran, their heads plumed with the smoke of their breath.

'Yonder,' nodded Johan. A furlong away across the snow-covered ice a vague shape skulked; then a second, three or four together. It was a large pack. 'Two score of them,' Johan estimated.

The barrener stumbled over a knife-like ridge of snow and the sleigh slewed round abruptly. The wolves halted discreetly. Niila hit the offside gelding and brought the deer back again. He decided to take to the bank of the lake and drive up to the cliff. He was not afraid, but with the barrener growing lamer at every stride he knew that the wolves would soon wear the deer down. Secure on the cliff he might get in a shot or two that would drive the pack off in search of easier game: if not, leave them savaging their own dead kindred.

They had to ascend the slope at a walk, but, as if aware that they must eventually descend on the other side, the wolves did not make any attempt to follow them directly. Instead, they came trotting leisurely across the lake and gathered in a half-moon not far from the foot of the scree, staring up, muzzles questing the brittle air, eyes glowing occasionally like embers. Sometimes as the brilliant waves of light flooded the sky the wolves stood out in sudden relief against the snow, nearly forty

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gaunt and restless figures, loping here and there, the essence of wild hunger.

AMONG the stunted birch-trees that crowned the Cliff of Sacrifice Niila halted the reindeer, got stiffly from the sleigh, and unslung his rifle, a dubious weapon that had travelled across half the Tsarist empire before falling into his possession. His hands were so numb he had to take off one of his embroidered mittens to cock it. His skin stuck painfully to the icy barrel.

Cautiously he moved to the edge of the cliff and gazed down on the wolves. Behind him Johan watched tensely and held the rein. Niila brought the rifle to his shoulder. It was not easy because of the bulky *peski* he was wearing. As he took aim he felt one heel giving on the frozen snow. He pressed down to steady himself, but next moment he was slipping with increasing speed. He sank on his haunches to stop himself, but it was no use. His legs went from under him. He snatched wildly at a birch-tree. The rifle eluded his numbed hand and fell among the boulders a hundred feet below. The wolves broke away startled at the sudden rocketing echo of the bullet. Then they padded back, their alert heads questing towards the man hanging there unaccountably on the lip of the scree.

Desperately Niila clung to the tiny birch. Hampered by his voluminous *peski*, he contrived painfully to turn so that he faced the cliff-side. His arm seemed wrenched from its socket. He dug the curled toes of his boots into the rock-face. With his free hand he groped for another hold.

On the cliff-top, Johan, numb with cold and apprehension, stood helplessly watching his kinsman's plight.

'Help me, Johan,' Niila muttered through clenched teeth. He dared not raise his voice. 'Quickly. I am slipping. Give me your hand.'

Nervously Johan shuffled to the edge. Hooking a foot through the framework of the sleigh, he stretched out a hand. Niila gripped it and tried to scramble his way up. But his feet kept slipping and he made no progress. 'You are pulling me over,' warned Johan. He began to panic, and all at once the fearful significance of what was happening dawned upon him. He had a sudden vision of Nuvte Juffu's contorted face mouthing curses at Niila, and here, before his very eyes, was the curse being fulfilled. Great Tirmes had waited

patiently for his victim, but now he was claiming him, on the Cliff of Sacrifice as the shaman had foretold, and Johan must not risk the god's anger by interfering. 'Let go, let go,' he cried. He struggled to free himself from Niila's urgent clutch. Then he wriggled his hand out of the mitten and worked himself back from the edge.

Niila did not reproach him. He was too intent on retaining his precarious hold. He was only vaguely aware of Johan getting into the sleigh and vanishing through the trees.

Below the cliff, the wolves continued their restless vigil. They whined uneasily and sometimes snarled impatiently at each other. All animals are inquisitive, and the wolves were curious beyond measure at the strange antics of the man.

Panting in growing exhaustion and fear, Niila strove to save himself. He pressed with all his remaining strength against the slope. His hands clutched frenziedly at the slender trees until the wood bit into his flesh. But all the time the feeling was ebbing from his limbs; the awful cold was inexorably prising away his grip. He was slithering slowly, agonisingly slowly, down that precipitous slope. Almost he wished to let go abruptly, swiftly, to be smashed into merciful oblivion on those chaotic boulders, to be torn by those hungry fangs. He realised well enough the cause of Johan's treachery. He, too, remembered the curse and saw Nuvte Juffu leering at him out of the murk. The sound of a drum beat in his ears.

Were the old gods more powerful than the nameless God he believed in? Niila's breath moaned painfully out of his straining lungs. Niila was afraid and knew that death was waiting for him; but even in his fear he was stubborn in his faith and, above the mounting, triumphant drum-beat in his ears, he began to pray.

And as if intent on spotlighting this strange scene the flickering lights blazed more brilliantly than ever.

NEARLY an hour later two Finnish settlers made their way across Pahtajärvi. Half-a-mile from the Cliff of Sacrifice they came upon the steaming remains of a reindeer, the lame barren Johan had unharnessed to throw off the pack. In the hope of eluding the wolves, she had run down-wind, but they were too hard on her heels to need a trail



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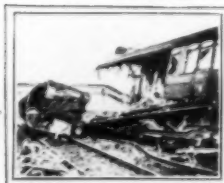
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THE MAGICIAN OF THE BRITISH CINEMA

to lead them. They hunted by sight and quickly pulled her down.

The Finns peered into the night and followed the sleigh-tracks to the bank and up the slope leading to the Cliff of Sacrifice. At the top they stumbled upon a sack of barley-flour and another of salt. While they speculated in astonishment over this, a faint voice made them turn. In wonder they approached the edge of the cliff and made out a man, exhausted, half-conscious, hanging there, spread-eagled on the rock-face.

Almost as if he had been nailed there—or as if some giant invisible hand supported him—the frost held him in its grip. His mittened fingers were clamped round the slender birch-trees. His *peski* was frozen to the steep rocks. His scrabbling boots were firmly set on the tiny foothold they had struggled to find. Even as he slipped towards death the frost that had seemed so overwhelming had succoured him.

With infinite difficulty, roped by their lassos, the Finns contrived hazardingly to haul Niila to safety. The frost tore his *peski* in its reluctance to release him; his boots were ripped at the seams; he gasped with pain when his fingers were forced away from their convulsive hold.

The Finns rubbed his hands and face and feet with snow dug from beneath the surface. Then they carried him to one of the sleighs, wrapped him in reindeer-skins, and drove him to Kaallavarr. Fierce, monstrous blisters turned his feet and hands into lumpish caricatures. Time and Marjatta healed them, but Niila eventually lost the use of two of his fingers.

In Kaallavarr the shaman's drum was heard no longer. Niila Jalvi's ordeal had proved too clearly that the God who demanded only love and faith was more powerful than the old gods who demanded a sacrifice of blood.

The Magician of the British Cinema

Pop Day and his Tricks

EGON LARSEN

WHEN he told me, during my visit to Shepperton studios some time ago, that he was thinking of retiring, I refused to believe him. I could not help feeling that this inconspicuous little man in a paint-bespattered overall, with his battered old hat on the bald pate and his rumpled tie around the open-necked shirt-collar—that Pop Day was as inseparable from Britain's film industry as J. Arthur Rank or Sir Alexander Korda. Unknown though his name is among cinema-goers, millions of them all over the world have admired his work. Inside the British film industry, however, Pop Day is a name held in the highest esteem and uttered almost reverently. And if we were to line up the

men and women to whom the British film owes most of its achievements and reputation the little old man would have to stand next to the greatest of our producers, directors, and stars.

William Percy Day, O.B.E., to give him his full name and title, has been responsible for innumerable backgrounds in about ninety per cent of all British 'first feature' films since the middle 'thirties. He did not build them in canvas and lath; he conjured them up with a magic formula entirely his own.

BORN at Luton seventy-four years ago, young Percy was a delicate child, too

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infirm to attend school regularly. But as soon as he was old enough to hold a drawing-pencil his career began. He obtained a Royal Academy School of Art scholarship; he won one prize after another. After completing his studies he went abroad to see the world with an artist's eyes, and to live an artist's life, which was, in those carefree days before the First World War, much more fun than it is to-day. He was married in Tunis, and later returned to England to settle in St John's Wood, London, as a portrait-painter.

One day, one of his sitters remarked: 'You could do worse than work in the films, Mr Day. Have you heard about that new process for screen photography? They're now holding up miniature models or small-scale paintings in front of the camera instead of building enormous and expensive sets. This means that they need artists in the cinema more than ever.'

That was in the early nineteen-twenties when Fritz Lang amazed the public and the cinema technicians with his monumental epics produced in the German studios—*Metropolis*, with its fantastic sky-scrapers, or *The Nibelungs*, with its giant forests and cathedrals. Percy Day took a look at this new process. Small-scale cardboard pictures or models were hung close to the camera, or reflected into the lens, in order to complete the sets, which were built only partly. For instance, the trees in the *Nibelung* forest were only about seven or eight feet high; the rest was added with the help of little postcard-size paintings.

However, there were some snags, and Percy Day was quick in finding them out. The greatest difficulty was that of fitting the two parts of the picture together in front of the camera so that the cinema-goer would not be able to discover any break. It took many hours of valuable studio-time to adjust the miniatures and to arrange the lighting in such a way that no one in the cinema could see where the actual set ended and the model or painting began. Percy Day wondered if there was a better way of deceiving the eye. He began to experiment, and finally succeeded in developing his own system of making these trick shots better, more quickly, and more cheaply. He offered his idea to London film producers. But in those days there was hardly a British film industry worth mentioning, so he went to France and made his first 'process shot' there—and with it there began a minor revolution in film-making.

THE new system made its entry with a bang, for the scene was to be the Chamber of Deputies, France's parliament, which had strictly refused permission for cinematograph pictures to be taken in its holy of holies. Percy Day reproduced the sacred locality in the studio, so true to life that when the film was released excited questions were asked in the Chamber: 'Who gave permission to film this place? And why was it given to a foreigner?'

Percy Day was inundated with orders, and remained in France for eleven years, perfecting his system all the time. It was based on an ingenious adaptation of the so-called 'matte' process known in ordinary photography: the scene with the actors is filmed on a built set which is just large enough to enable them to move comfortably; the top and side parts and most of the background are missing. These missing sections are masked off with black cardboard placed in front of the camera. After the take, the film, with the exception of a few feet for testing purposes, is not developed but carefully stored away.

One of the tiny frames of the test footage is then enlarged and given to the art director, who uses it to make his final sketches of the missing sections. Then the most intricate job begins—an artist's job. An image of the test film is projected from behind on to a large glass pane; the outlines of the projected picture are carefully drawn in, and the missing sections are painted on to the glass pane in accordance with the art director's sketches. As the work of painting proceeds, test photographs are taken again and again to ensure a perfect line-up between the two parts of the scene.

When the painting is completed, the exposed film is reloaded into the camera. Now the parts which have already been exposed are masked off with black cardboard, the painting on the glass pane placed in front of the camera, and the whole length of the scene exposed again. Thus both parts of the scene are now on the same film. It goes without saying that the trickiest part of the whole job is the correct placing of the glass pane; the distance from the lens must be determined by using the laws of perspective, and the tiniest fraction of an inch too much to the right or left, too high or too low, would mar the whole scene, because the break would then be visible on the screen.

The advantages of this system are obvious.

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The backgrounds, upper and side parts of halls and buildings, trees or mountain vistas can be added. Only a minimum of set-building has to be carried out in the studio. On location shooting, it does not matter if whole parts of the scenery are wrong—they are simply masked off, and the right parts added later on. Perhaps the greatest advantage as compared with the old miniature system is that in the Day process all the intricate, time-wasting work of joining the two parts of the scene by arranging the miniatures and lighting is no longer done on the floor of the studio. The film is completed in a separate special-effects studio at everybody's leisure.

WHEN Percy Day returned to England his fame had already got there before him. It was the time when Korda began to put some life into the British film industry. Percy Day's first job was to add some Dutch backgrounds to Korda's *Rembrandt*. Then H. G. Wells's fantastic *Things to Come* offered him a unique opportunity of showing what he could do with his process work. His next jobs were *Four Feathers*, *The Thief of Baghdad*, and *Sixty Glorious Years*, to recall only a few pre-war successes to which Pop Day, as everybody began to call him affectionately, applied his magic touch.

It is no overstatement to say that Pop contributed, during the seventeen years which followed his first work in a British studio, the backgrounds to nine out of ten great British films, and that in many cases his process enabled producers to tackle subjects which would have been too expensive without it. He made ancient Egypt's temples appear in technicolor in *Caesar and Cleopatra*, and it was he who gave us the vast duelling-hall in *Colonel Blimp*, Oscar Wilde's London of the 'nineties—remember the magnificent reconstruction of Hyde Park Corner?—in *An Ideal Husband*, the Italian coast, complete with the sun reflected on the waves, in *A Man About the House*, the Himalaya range and Tibetan monastery in *Black Narcissus*, with a minute donkey climbing up the mountain path, the African jungle in *Man of Two Worlds*, the railway-station in *Anna Karenina* (the accident scenes were combined Day process and model shots), the flooding of a Welsh village in

Emlyn Williams's *Last Days of Dolwyn*, and Old Edinburgh in *Bonnie Prince Charlie*. The dramatic scene in *The Third Man*, in which the Czech girl decides at the last moment, in Vienna's railway-station, to stay instead of taking the train to safety, was shot in London, with Pop Day's station backgrounds. *The Winslow Boy* and *Lost Illusion* are full of his special effects.

One of the most exciting scenes Pop helped to create was the climax of *Mine Own Executioner*. Towards the end, when the psychoanalyst tries to talk his patient, perched on a rooftop, into climbing down, the impression of great physical danger had to be conveyed. Burgess Meredith sways precariously on the top rungs of a fire-ladder, with the vast panorama of London reeling far below. Had this shot been actually taken at such a height, perhaps from a neighbouring roof, Meredith might have been overcome by vertigo; so Pop was asked to help. He added the London panorama to a studio shot with no more than twenty feet of ladder.

Although Percy Day had his permanent special-effects workshop at Korda's Shepperton studio, he was frequently lent to the other British production companies. Much of the Battle of Agincourt in *Henry V*, for instance, is his work. He painted the phalanx of the knights in front of their camp tents; he made the horses' heads move and the pennants flutter in the breeze. How he did that is one of the little secrets which Pop prefers to keep to himself.

'Is there anything you couldn't do?' I asked him admiringly when I met him the last time.

He chuckled. 'I'm still waiting to be told that someone's going to shoot Noah's story,' he said, 'because I'm looking forward to supplying the Great Flood.'

Even the Great Flood, however, could not tempt him now. He has retired for good. British films will never be quite the same without Pop, but he has trained a small band of artists to carry on his work, and in Continental studios the Day process is in constant use—although I doubt whether this term is linked to any concrete idea of Pop personally, except in France, where he worked so long. He will now be able to do what he had wanted to do for many years—to paint, not for the films, but for fun.



The Abominable Snowman's Forebears

K. B. JAMIESON

ONE little expects to hear of manlike creatures living wild at altitudes up to 20,000 feet or more, in a region of eternal snows. Although sheep and hares have been observed at that height on Mount Everest—some 3000 feet above the snowline—the food problem, one imagines, would be yet more perplexing than that which besets international economic experts to-day. Still, the Tibetans and Himalayan peoples have no doubt of the existence of such creatures, a race of wild men, half-human and half-bestial, whom they call in their own tongue 'abominable snowmen' (*meteh*, indescribably filthy; *kang*, snow; *mi*, man), other names being *mi-go*, *yeti*, *bhanj-akri* (male), and *ladini* (female). Besides, for more than thirty years European climbers have been reporting unusual tracks detected in the icy wastes, and attributed in local legend to these beings. The latest such report comes from the British reconnaissance expedition to Everest, whose leader, Eric Shipton, has published three photographs of triangular footprints apparently twelve and a half inches long, discovered in the basin of the Menlung Tsu.

Notwithstanding a superstition that to see a snowman causes instant death, native

hillmen and porters will unhesitatingly furnish eye-witness descriptions of the monster. Indeed, it is from them alone that impressions of his appearance and habits are derived. He is said to be large and apelike, swathed in long hair of a colour sometimes black, sometimes reddish-brown, but with a pallid hairless face whose features betoken malevolence and ferocity. A mop of tangled hair falls over his eyes when he is going downhill. His stature varies from five and a half to nine or even twelve feet. While snowmen of merely human proportions are content to devour men, their gigantic brethren kill and eat yaks, or drink their blood, and have been credited with abducting women. As for the snowwomen, they are cruel huntresses, bigger and more deadly than the males of their kind, who, along with ordinary men, fill a place in their diet. Like some Tibetans and Lepchas, these cannibalistic females tend to practise polyandry. It is even said that the snow-people speak a language of their own.

A strange feature of these extraordinary beings, and one which casts over them a shadow of suspicion, is that their clawed feet point backwards, enabling them to climb, leap, and negotiate the treacherous mountain-

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slopes with amazing speed. When it appears that not only their feet but their heads, too, are turned backwards—*bhanj-akri* means 'he of the twisted form'—suspicion becomes incredulity, and some will be tempted to dismiss the whole tale as an idle, wanton fantasy. Inquiry, however, shows it to be something more than this. For one thing, the sincerity of the Tibetans in this matter is evident to anyone: they really believe that they have seen snowmen. Moreover—and this seems to have escaped notice—the belief has a very respectable antiquity, for Pliny the Elder, writing his *Natural History* in the 1st century A.D., declared: 'Beyond the other Scythian Man-eaters (Tibetans), in a certain large valley of Mount Imaus (Himalaya), there is a region called Abarimon wherein live wild people with feet turned round behind their legs; they are extraordinarily swift, and roam everywhere with the wild beasts. Beton, surveyor of Alexander the Great's expeditions, reported that they could not breathe in an unfamiliar atmosphere, and therefore could not be taken captive to the neighbouring chiefs, nor to Alexander.'

ACCORDING to the late Frank S. Smythe, the legendary 'forbidden valley' which the snowmen frequent is to be located west or south-west of Everest, near the Tibeto-Nepalese frontier. To the native mountaineers the Everest range itself is a deity, *Chomo Lung-ma* (Mother-goddess of the World) or *Devi-danga*; likewise, the sacred peak of Gauri-Sankar in Nepal, near Everest, bears the name of the fair bright goddess Gauri, who is also Durga the inaccessible and Parvati, the golden-skinned daughter of the mountains, consort of Siva. Now, in primitive religion there is often no very clear line of demarcation between gods and demons. If the mountains are divine, what more natural than that devils should be set to guard their fastnesses? In dreams or hallucinations the mountain-folk, with imaginations inhibited by traditional lore, 'see' these monstrous denizens of the 'abode of snow'—and accept the visions as real, like primitive communities everywhere, fortifying their belief with whatever strange happenings, unexplained vestiges, or nocturnal sounds seem to confirm it.

The dim interiors of Tibetan temples and monasteries harbour many beautiful examples of religious art, but there are also rather

lurid motifs which include gorilla-like figures strongly resembling snowmen. These are usually gods, gold-studded and wearing garlands of skulls, in the attitudes known as *tro-wo* and *yab-yum*, or accompanied by their *shaktis*; but some are she-demons, *dankinis*, with expressions of savage fury. All are interpreted as Tibetan varieties of the mythical, androgynous, proto-totemic, divine-demonic ancestral beings found always at the source of primitive religion. They were once biforms, double entities which early man recognised in the heavens and the earth, in fire and water, controlling thunderstorms and the motions of sun and moon, and which reflect in mythology the primary impulses behind the earliest human societies themselves. Psychological, social, and ethnic studies find in them a common starting-point. In the course of tribal development, however, one or another element of a biform might be lost or forgotten, leaving a god or goddess, or a demon.

Such Tibetan deities as Dorje-sempa, the androgynous 'god above all,' preserve characteristic features of the ancient devil-dancing Bhon cult, from which they were taken over by Buddhism. One feature of the old religion which must be especially primitive, as it was shared by the Tibetans with their Tangut kinsmen to the north, was a kind of ape-totemism, needless to say unconnected with any 'missing link' theories! The Tibetans claim descent from an ape and a she-devil, who had six children, but, having tired of them, abandoned them in a forest. After many years the ape returned to find that the original six had increased to five hundred. As these descendants were in dire need, and scarcely able to fight off starvation, the ape asked the god Chen-re-sig, 'the compassionate spirit of the mountains,' to be their guardian; he agreed, and fed the ape-devils on heavenly grain, whereupon their tails and hair grew shorter, they began to speak and clothe themselves, and finally they were transformed into men and women—the first Tibetans.

Chen-re-sig is the divine Ava-lokit-Eshvara of Mahayana Buddhism, personifying Infinite Mercy, and predecessor of the Dalai Lama in the cycle of incarnations; his consort is Tara, the Lamaist Madonna, with whom he probably once formed a double ancestor like the Chinese biform Kuan-Yin. It is unlikely, however, that his merciful role belonged to the pre-Buddhist version of the above myth, for the Bhon religion was no kindly one.

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Furthermore, the change from apes to men reverses the process related in genuinely primitive myths of this kind—for instance, those of Indian tribes in Tierra del Fuego, in which the transformations of mythical ancestors from human to animal form, not vice versa, are explained as retribution for various misdeeds. Early man linked nature and the animals with himself in a sort of common descent as offshoots from the first ancestor. Thus the original Tibetan myth may be broadly reconstructed as follows—from the first biform emerged other biforms, lesser replicas of the same, who ate a forbidden food and in consequence were turned into ape-devils; and these are no other than the abominable snowmen who serve the mountain-spirits.

CURIOUSLY enough, there were ape biforms in pre-Columbian America, among the Maya in and south of Yucatán and among the sub-Andean peoples of the southern continent, corroborating other evidence for assigning an Asiatic origin to the American Indian. At Tekax in Yucatán have been found statues of powerful anthropoids like gorillas, one of them apparently androgynous; and broken remnants of a giant ape figure were seen at Copán, in Honduras, around 1880. In Guatemala the Mayan-speaking Quiché tell how the gods created mythical ancestors who were disobedient and ungrateful to 'their Mother and Father,' the god Hurakan; hence a flood was sent to destroy them, the few survivors becoming monkeys. The Yurucare of Bolivia have a similar myth. Some Indians of the Peruvian Andes believed in the existence of monsters with human heads and other parts, but hands and feet like those of apes. Most interesting of all, in the region of the Upper Amazon, there was supposed to be a tribe of Indians called Guayazis, or Mutayas, having monkeys' tails and, like the snowmen, feet which were turned backward, so that a stranger trailing them would walk away in the wrong direction.

Storms in Central Australia are attributed by the blackfellows to androgynous double demons, dangerous beings, the sight of whom means death to anyone but a powerful sorcerer. Among the Pitjendadjara these take human form, their heads facing in opposite directions, and are called *kunna murali*. In other tribes, where the name for

them is *tintjiri punguta*, they have become dogs, a totem species, one flying in front and the other behind. A Warramunga tale connects a pair of wild dogs with the origin of the bull-roarers used in totemic ceremonies. By the Arunta people the dogs are called *erukurindja*, a term which also refers to the double churingas or bull-roarers, and are associated with dragonflies that skim over water in pairs. An exactly similar dog-devil is found in Melanesia, in south Bougainville; when it comes out of the bush to a village, the mosquitoes are said to bite. On the other side of the globe, among Teutonic tribes, nearly the same belief occurs. Riding through the storm in the train of the Wild Huntsman, Odin, upon steeds that have the forms of hideous dogs, are men with their heads the wrong way round. It is clear, too, from the Eddic myth, to which our nursery rhyme of Jack and Jill is traced, that a biform was seen in the moon, as it was by many other peoples, notably the Haida in British Columbia; hence the Man in the Moon, with his widdle, or faggot of sticks, accompanied sometimes by a woman and sometimes, in his character of totemic ancestor, by a dog. Regal honours were paid by the Ethiopian Ptoemphanae and the worshippers of Diana of Nemi to the dog, man's earliest companion and probably his first totem.

Another favourite shape assumed by primitive biforms was that of birds—for example, the woodpecker and ibis in Fuegian myths. The Ona Fuegians, who assure us that all biforms were once androgynous and human, believed that the white-owl and the bat had been brother and sister; in some tribes of south-eastern Australia owls are the totems or patrons of the women, while the bat, listed in the Bible among birds, belongs to the men. In China the *feng-huang* (androgynous) or phoenix was a cosmic symbol, sometimes identified with the golden-pheasant, but alleged to be over six feet in height. Swarms of smaller birds followed it everywhere, just as in Indo-European mythology the sky-god Dyeus—that Zeus, Dyaus, whose androgyny is recalled in an Orphic hymn and in Sanskrit gender distinctions—has the *deivos*, or 'shining heavenly ones,' for eternal companions. Anyone wishing to see a biform need only look at the arms of the old Austrian Empire, the double eagle of Hittite origin, with its heads turned in opposite directions and its feet clutching appropriate symbols. Double

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condors occur at the Ti-Huanaku ruins in Bolivia. During excavations at Tell Halaf, in Upper Mesopotamia, reliefs were discovered showing birds with two heads and long necks, and even Beelzebub himself appears during the Middle Ages as a four-footed bird, though with a bull's head! Bird-totemism is often associated with phallism, a special form of the biform concept known to date from the early mesolithic period.

Another relief found at Tell Halaf was of a winged demon with two lion's heads turned away from each other and set on a human body, the feet being turned outwards. The only important difference between such beings and our snowmen is that the latter have been, so to speak, cut in two—a separation which finds many parallels in mythology. Myths also enable the student to understand the reasons for the puzzling epithet *meteh*, inaccurately rendered 'abominable,' but a full explanation would require investigation of the Bhon cult and certain derivative forms of Lamaism, such as that which influenced Shun Ti, Emperor of China (1333-68). Friar Odoric, writing in 1330 about the Tibetans of that time, but perhaps thinking primarily of the monks and priests, has this to say: 'Many other vile and *abominable* things does this nation commit, which I mean not to write, because men neither can nor will believe, except they should have sight of them.' It is no accident that some of the snowmen's alleged habits correspond to actual and ancient customs of the Tibetans themselves.

WITH a credulity not unparalleled in our own day, writers of the past took literally the human-biform myths of which rumour told. Thus Pliny locates androgyni in Libya, Mandeville, in one of the 'islands of the sea about India.' That we cannot have a similar faith in the existence of these extraordinary beings, or the Tibetan's rather simpler attachment to his snowmen, even if in this case we should admit that there might be giant apes in the Himalayas, possibly detracts from the news value of such stories; but, truly, there is more genuine romance in finding that snowmen belong to a universal and very ancient pre-animistic aspect of the human mind than there would be in establishing the objective reality of the monsters. To primitive man, so largely dependent upon the irregular bounty of nature and the goodwill

of his fellows, the phenomenal world seemed obviously to work by means of forces similar to those operating in his own society, and it is therefore not difficult to recognise in his nature-spirits the reflection of his social organisation. It is not too much to say that the biform theory will revolutionise the science of anthropology, and other disciplines besides, by providing a basis of unmistakable fact for the functional history of the family, of kinship classifications, of the exogamous totem-clan, and of mankind generally, civilised as well as primitive.

Biforms, discerned in the storm, thunder, moon, sun, sky, fire, and so forth, were not merely a class of superhuman beings among others, but lie at the root of belief in gods and demons alike. The Babylonian priest Berosus wrote of the first inhabitants of the primeval chaos, followers of Apsu-Tiamat, as androgynous beings like 'men . . . with two and some with four wings, with two faces, having one body, but two heads.' So with the gods. Marduk, son of the water-god Enki, and afterwards the mighty creative deity at Babylon, is tall of stature and terrible of aspect, with two faces: 'four were his eyes and four his ears; fire blazed whenever he moved his lips.' Nannar the moon-god was androgynous, and so, it may be conjectured, was the sun-god Utu, whose consort Aya sometimes bore his name in reduplicated form. Among the early Romans, again, before divine marriages and theogonies on the Greek pattern came into vogue, the two-faced Janus or Dianus, who presides over doors and beginnings, may be compared with Diana, the Italian wood-spirit and goddess of birth. It has been suggested that his image, if he originally had one, was equipped with two faces in order that worshippers on either side might be equally favoured: however, he is not only *bifrons*, double-faced, but also *anceps*, double-headed.

Since every recognisable double demon has but one animal form, some may have lost all obvious traces of duality, like the so-called Nandi bear of Kenya, described in these pages in November 1951 by C. M. Phillips, and perhaps connected with the hyena cult of the Nyika tribes. No doubt many a 'laidly worm' began its career as a two-headed serpent, in the manner of the Greek *amphisbaina* and the Malay *biram*, or as a bright lizard with two heads and tails, which is the form taken by one local demon of the New

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Guinea Arapesh, believed by them to be extremely dangerous to view. Others, such as the sheep-headed serpent *ogopogo* of Okanagan Lake in British Columbia, referred to by the Indians as 'Grizzly Bear,' and the fierce goat-headed, snake-bodied *nogapotsane* of Bechuanaland, reveal their origin by their composite nature. Snakes, lizards, birds, and insects became vehicles of human souls as well as of mythical ancestors, thus linking pre-animism and the cults of the dead. Yet other biforms acquired negative features and emerged headless, one-legged, or sexless, or enlarged some members at the expense of others, like the 'people of divers shapes' in Mandeville and the Papuan *ori-goroso* with his huge ears and tiny legs. More important, perhaps, but sufficient to provide material for a separate study, is the relation between the cosmic biform and the *omphaloi* (*ktenes*), earth-centres, or stone-circles found in so many places.

IF snowmen are mythical beings, the question remains: What are the tracks found in the Himalayas? Some of these have been attributed to a species of brown bear (*Ursus arctos pruinosus*), and, indeed, one porter of the American K2 expedition in 1939 described a 'snow monster' which might be an exaggerated impression of a bear; he said it was a huge quadruped with eyes set high on

its forehead and footprints just over a yard long! Other marks have been assigned to some large monkey. Some of those photographed by Mr Shipton can be matched with the prints of a variety of the five-foot-high, slender, long-tailed Himalayan langur, or entellus monkey, although one member of his party favoured the bear theory. The only difficulty, that the snowman's footprint appears to be nearly half as long again as the monkey's, is accounted for by the manner in which the animal bounds along, placing its hindfeet upon the rear part of the indentations made by its forefeet. Now the langur, hairy and bearded but otherwise bare-faced, may well be the ancient totem species in whose form the 'abominable' snow-biforms were first conceived. In India the langur is sacred to the monkey-god Hanuman ('Long-jaw'), and it is of some interest that in the Malay State of Kedah this god has degenerated into a dog-faced demon, Andoman. Materialistic theorists, wedded to the preconceived notion that totemism originally had a purely economic basis, namely in man's food-supply, have inferred that the first totems were grubs and molluscs; but it can scarcely be imagined that the biforms from which totems developed began in these forms. Such evidence as exists goes to show that from human shape the pre-totemic ancestors passed to a canine form, upon which all subsequent biforms were modelled.

Windows

Blank and unfriendly
Are the windows
Seen from the street in daylight,
Rows upon rows
Curtained and aloof,
Seeming to avoid the glance
Like eyes of strangers.
But at twilight
The windows beckon,
Warm intimate scenes
Radiate without to passers-by,
Filling the lonely heart
With longing for known faces,
While far away
A cottage window
Pours its welcoming beam,
On cold and empty spaces.

JANET RENNIE.



The Querulous Clock

ALUN LLEWELLYN

'THERE never was,' said the law-clerk, 'so much to-do about anything as this question of Time. I will not remind you of its connection with my own trade except to say that time and the regulation of it is a matter of great concern both to law and to those who suffer under legality, and that what is perpetuity and what marks the beginning of human memory is the subject of much legal fiction. Which, according to modern philosophers, is an apt and judicious thing, time being a mere piece of imagination.'

Now, this vexes the waters of controversy, for if law is not always philosophical, philosophy is always litigious and philosophers are men of wrath. So this brings me at once to the Querulous Clock and Tomos Skiborry who owned it.

Most of the farmsteads hereabouts are of old standing, and Skiborry is one of the most ancient. Tomos could trace his ancestry in the house backwards for five hundred years. Not that this made him particularly extraordinary among us—but it throws light upon the character of the Clock. For the Clock stood in an alcove of the dining-room, black and tall and thin, and ticked away the hours as it had ticked away a couple of centuries or more, standing in the same spot and seeing

the same walls about it all that time. It was a clock of a contemplative cast of countenance, grave and without ornament, and not unlike Tomos himself.

Tomos was, of course, young, but, whether by reason of living in so old a house, or because of the misfortunes which had brought his family down in the world and left him the last of his line at an early age, he had a gravity and a certain hardness of outlook which made him staidier than his years. You never found much flippancy in him and, although he was not without a softer side, he kept it concealed. What was surprising, however, was the unpredictable temper which possessed the Clock.

Those who own such ancient grandfather-clocks will tell you that they always, perhaps by so long contact with human families, show signs of certain human frailties. They like to have due attention paid them; and I have myself been acquainted with one which if it was not wound up regularly before the upstart marble clock on the mantelpiece would go into sulks and not work for days, though it was docile enough if given due precedence. There is so much mechanical in men's make-up that we should not be surprised by finding something in machines to show that pride and

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temper and discontent are not limited to humanity.

Be that as it may, there was no doubt that the Skiborrey clock had unaccountable fits of exasperation and would stand in its corner rocking from side to side and striking sixty or seventy to the dozen and displaying all the signs of protest and impatience—which by family tradition had occurred four or five times when some decision was pending in their affairs of which the Clock, having powers of foresight, disapproved. And by the time Tomos came to own the place it was evident that the Clock had usually been right and had some claim to divine the future.

NOW Tomos had to make a decision himself. I have said he was young, and can add that he was personable, from which you may gather that his thoughts had turned to marriage—a difficult decision for any man at any time, whatever his condition, and particularly so for Tomos.

On the one hand, there was Elen Bodlas, a widow young enough and wealthy enough; and on the other there was Lyned Rosfair, young too and with every advantage about her more than most, except that she was without a penny.

Tomos, who was too steady a man to have conceit, knew well enough he had but to say the word and either of them would give him the answer he wished. Yet when he thought of Lyned, he thought of the farm and its future and what was needed to make him play his part in the world as a man of property. And when he thought of Elen and the comforts of many kinds she could bring, he thought again of Lyned, and something in his heart leaped. But he was wise, and the lesson of his family had taught him that calculation might make better profit than impulse.

So he sat smoking before the fire one Sunday, his feet on the hearth and his head debating, not between love and money, since the issue was not so plain to him, but between a fondness that was somewhat assisted by the promise of comfort and a feeling which he could tell himself had only to do with something unassignable to any sort of common-sense. And suddenly the old Clock shuddered and rocked to and fro as if it beat its sides, and the wheels whirled, and there it was, striking sixty or seventy to the dozen. It might have been gnashing its teeth and swearing; and it

was so familiar a thing that Tomos jumping from his chair made no bones about addressing it. 'What are you up to?' he shouted, swearing a little himself, for he had been peaceful with his thoughts and this was no way to interrupt them.

'If you think I can stand here and see you make a fool of yourself,' said the Clock, 'as I have seen generations of your fathers fools, and not at last deliver some comment upon it, then you are mistaken.'

Tomos from a small boy had had great respect for the Clock and felt its opinion might be worth having. Nor did it occur to him to wonder that it should talk, since there had always been that air about it of inward rumination and watchfulness. 'If advice you have to give,' said Tomos, 'give it.'

'Advice is nothing,' answered the Clock, striking a half-hour as if it clicked its tongue. 'Experience is everything. That is what I have to offer.'

'What experience have you,' asked Tomos, not going to be browbeaten by any piece of machinery, 'standing in a corner and not shifting, one year's end to the other?'

'It is Time that shifts through me,' the Clock replied. 'You men are born and live and die, being carried along by time and ordering all your days to keep pace with it, as you fancy. But I stay still and time goes round from one to twelve and back again and there is no change in it. I have caught tomorrow in the same loop as yesterday and they are both here inside me, to-day.'

'You are claiming a lot,' said Tomos, for in spite of his respect for the Clock he thought it talked nonsense. 'I know next year will be as unlike this as day differs from night.'

The Clock laughed. 'Because you go with the stream and think it alters since you are carried with it. I stand and let it flow through me and I know it is one thing always and the end and the beginning are the same.'

'Then why,' said Tomos quickly, for he did not intend to be outpaced by a mere brass dial, 'why do you blame me, as you have belaboured my forefathers' ears with your striking, for making wrong decisions, when our decisions are laid down for us beforehand?'

'You do not understand,' replied the Clock with some impatience. 'You may make one decision or another. My point is that everything comes to the same in the end, just as my hands go round from one to twelve and back

THE QUERULOUS CLOCK

again. There may be variations in between, and the seconds may fuss and change and look big, but as I say it comes to the same thing in the end. And you are fools to think your plotting and planning are worth the candle.'

'You may talk,' said Tomos, getting a little angry himself, 'but you'll have to persuade me with more than words.'

'Which I can do,' said the Clock, shaking its square top at him. 'Open my door and get inside, and Time shall flow past you as it flows past me—and you shall see.'

Now Tomos was a staid young man and dour and proud of his judgment. And no clock however eloquent could be permitted to challenge him unanswered. So he opened the door and got in among the weights, which he found he could do more easily than he expected, and stood as it seemed to him with his head behind the brass face and with the sound of wheels quiet and steady inside his own skull.

'LOOK,' said the voice of the Clock as it might be his own voice. 'What do you see?'

'I see I have married Elen,' Tomos replied. 'And I am fond enough of her and we do well with all her money.'

'Look again,' said the Clock.

'There are children and there are debts,' said Tomos in a changed voice, 'for she has somehow lost all her money.'

'You never can tell,' said the Clock.

'And she has fallen so much in love with me that she never leaves me a moment's peace or content, and I am driven to the bottle. And I do not care at all for what I see.'

'Look again,' said the Clock.

'We are both grown old, and the farm is still here and we still in it, for we have managed somehow and we are no better and no worse than any other pair might be.'

'So that is that,' said the Clock. 'Now try Lyned, if you choose.'

And Tomos looked, and this time he was married to Lyned, who had not a farthing to bring him, but they were so much in love nothing else could matter though times were hard at first. And there were children, and the future was bright for them, for somehow Lyned had unexpectedly come into money. But with that she had fallen out of love with him and left him no peace or content, so that he was driven for refuge to the bottle. And in the

end they were old, and the farm was still there and they in it, for they had managed somehow.

'You see?' said the Clock.

'The only comfort I have,' said Tomos, 'is that the farm will still stand and there will be children to carry on with it. For I seem to be a poor sort of man in the future; yet I would not have Skiborru ruined by it.'

'It is the same thing in the end,' observed the Clock in a deep voice. 'And what did I tell you?'

'I have had enough,' gasped Tomos, and pushed his way through the door. And he was sitting in his chair, with the fire down to cinders and his pipe cold, as if he had dreamed.

THE rest of the night was no comfort to him. So with the morning he rose early and went into the fields. There was a skim-milk of dew upon the meadows and the sky was clear and still; but for him there was no life in the day, for the Clock had offered him no further alternative and it seemed he must marry Elen or Lyned and get little out of either bargain.

Staidier than usual he stood watching the hand of dawn stretch over the sky, and it seemed to him that, if marry he must, it would be better to marry Elen, since at least he would have money to begin with and it was on the whole better to suffer from too much love from one wife than to love another one too much and be rejected by her—better, in short, to begin without belief than to end with disillusion.

Therefore, in no good mood, and driven as it were by the fatalities of the Clock, he set off down the lane to Elen's house. But as he looked over a gate in the hedge, there was a girl turning the hay. She was alone and did not see him and her arms moved like the motion of a song and the larks were loud above her. It was Lyned, and as he looked at her his heart leaped.

He stood for a long while thinking, with all he had seen inside the Clock passing again before his eyes. What he felt for Lyned might have plenty of rhyme in it but no reason that he could see. And the Clock had done no more than confirm what his own mind told him—that love was a thing of fancy and that men and women changed with time and that there was the same end for all things. All this his wisdom repeated; yet the larks sang and the sun was bright upon the hour.

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He did not go to Elen's but turned about and made his way back to his own home.

THE Clock was standing in its place communing with itself in a fashion Tomos thought altogether too self-satisfied.

'What's to prevent me marrying neither, if I choose?' Tomos asked it.

But the Clock did not answer, continuing its tick on a pondering note as if the question had taken it by surprise.

'I have you there,' said Tomos. 'You are not so wise as you suppose. Who are you to tell the future or say anything of time?'

'I have seen a great deal more of it than you,' protested the Clock, 'or any man alive. If you don't believe in the things to come, you can't deny I have recorded the past pretty well in my day.'

'And how much of that?' asked Tomos, indignant now, for he had the thread of an idea that the Clock had deceived him. 'Could you record the times before you were made? And who made you, anyway?'

'There was time before I was made,' the Clock agreed. 'But there was also a time before time was. And though men made me I catch eternity as skilfully as the burning-glass draws the sun into itself. I tell you everything . . .'

'Everything you tell me is nonsense,' said Tomos. 'And if you suppose I will not be master in my own house, you deceive yourself gravely.'

'What are you doing?' cried the Clock in great alarm.

'You may be eternity,' reflected Tomos, opening the door of the Clock and taking off the first of its weights, 'and all time may go in circles inside you. But I,' said Tomos, un-

hooking the second weight, 'though I am nothing but a mortal man and have nothing but the present hour, yet I have that hour always with me and it shall be what I make it. I have made my decision,' said he, 'and you shall stand always at this point of time to mark it. For I shall marry Lyned, and, come what may, there shall be nothing better in the world for me than to know I love her now, and nothing shall take that from me.'

'Don't say I didn't warn you,' gasped the Clock in a feeble voice as Tomos shut the door again.

'I am greatly obliged to you,' Tomos replied, for he felt he owed the Clock the courtesy of old acquaintance, 'but I should be a poor sort of man indeed if I did not trust myself to meet the hour as it comes and shape it as I should . . . And if you ever say a word to Lyned,' he added, 'I'll have you taken to pieces and bar the pigsty with you.'

And he went out and asked Lyned there and then and, because he was personable and serious, she agreed.

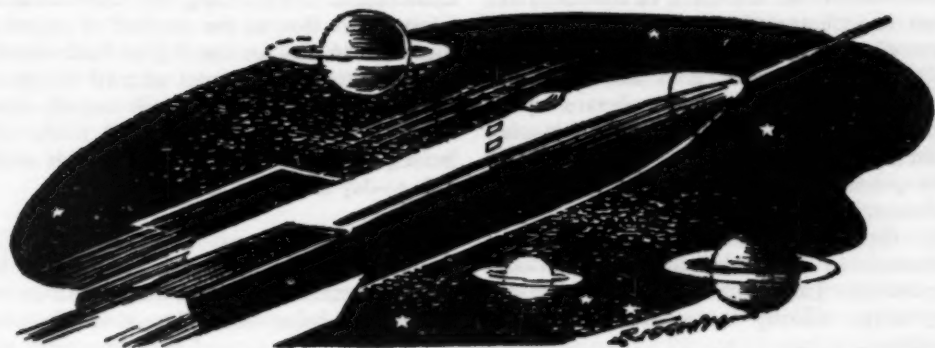
And in Skibborry they live to this day, nor has the Querulous Clock ventured any further observations, so far as I know. Neither have any of its prophecies as yet come true, Tomos and his wife being fairly well on in years and prosperous and with a healthy family. Perhaps fate is biding its time; or perhaps, as I prefer to think, the Querulous Clock was like too many prophets and suffered from having stayed too long in one place and never having shifted to another point of view. For if the philosophers are right, time is relative and what it contains looks different from different angles. And if a man like Tomos has it in his heart to make it so, an hour of love or courage can have in it more than eternity can overcome.

The Winds of God

*The winds were dumb,
Until they met this willing tree—
And now they sing of stars and hills,
In lyric minstrelsy.*

*And I was dumb,
Until Your spirit swept me through—
And now I sing of light and love,
Yet not myself, but You.*

JOHN HOFFMAN.



Interplanetary Space-Travel

L. N. THOMPSON, B.Sc.(Eng.), G.I.Mech.E.

ONE of the most remarkable testimonies to the immense strides which have been made in the materialistic sciences during the last decade or so is the complete change-over in public opinion regarding subjects which, only a relatively short while ago, were regarded, with some justification, as belonging to the realms of fantasy. An excellent recent example of this great change in attitude is that of a certain transatlantic family which, on being shown some particularly realistic paintings depicting a space-rocket resting on the Moon, and similar scenes, immediately assumed that the paintings were actually photographs taken at the localities in question. The family were even mildly surprised when enlightened otherwise!

Primarily responsible for this much heightened state of the public imagination are developments such as those of military and industrial nuclear power and long-range bombardment rockets. Particularly with regard to matters such as interplanetary rocket-flight, the opinion of the man in the street has swung from the slightly amused scepticism of quite recent years to a present-day willingness to believe modern science capable of virtually anything. This assumption, when referred to true space-travel, is, to say the least, decidedly over-optimistic.

It is unfortunately a fact that even to-day, when interplanetary flight is a subject being afforded a great deal of attention, by technical journals, the press, films, radio and TV, the true magnitude of the interplanetary project is still not generally appreciated. It is usually assumed that the conquest of space will be achieved in the very near future merely by the construction of rockets some three or four times bigger than the well-known V2 and of similar design. Regrettably, however, the true state of affairs is very different.

IN order to journey from Earth to any of the other bodies of our solar system with any reasonable degree of fuel economy, it is necessary first of all for a spaceship to attain the 'escape velocity' corresponding to Earth. This term 'escape velocity' is one which is often confused in the literature on astronautics, as the science of space-flight is now termed, but its real interpretation is quite simple. It is merely that velocity which a rocketship must reach in order that it will possess sufficient momentum to enable it to defy permanently the retarding pull of Earth's gravity.

Once this velocity has been attained, the ship will never fall back to Earth, and the

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rocket motors can therefore be shut off. The great importance of this from the point of view of fuel economy will be self-evident. In theory, of course, it is not absolutely essential for the ship to accelerate up to escape velocity; it could theoretically journey from here to Mars, say, at a steady 60 m.p.h. The practical objection to this procedure, however, apart from the time involved, is that the fuel consumption would be so enormous as to render the project totally impossible. Hence the importance of reaching escape velocity in as short a time as possible.

Each individual planetary body, of course, has its own particular value of escape velocity, this value being relatively low for some bodies and high for others. Unfortunately, Earth falls into the latter category, the actual value in question being no less than roughly 25,000 miles per hour. As the published maximum speed attained to date by any rocket is 5150 m.p.h.—reached by the WAC Corporal second stage of a combination V2/WAC Corporal two-stage rocket at White Sands Proving Grounds on 24th February 1949, the corresponding maximum altitude attained being 250 miles above the Earth—it will therefore be easily appreciated why we are not yet running passenger services between here and Luna!

On the other hand, it is well to bear in mind that while our present-day rockets do not enable us to escape from Earth in a single attempt, such rockets would be quite capable of escape from other well-known bodies of our solar system which have considerably lower values of escape velocity. It is not generally realised, for example, that even the V2 of last-war notoriety could escape quite easily from the Moon if fired off from its surface. The V2's top speed of 3600 m.p.h. under terrestrial conditions would be appreciably enhanced under the lunar conditions of lower gravity and absence of air resistance, and the missile's complete escape from Luna would therefore be quite feasible.

Higher rocket velocities can, of course, be attained by further application of the multi-stage rocket principle previously mentioned. A multi-stage, or step-rocket, consists essentially of several single-stage rockets coupled together in tandem, each rocket in the series commencing to fire immediately the previous one ceases, the previous stage being then jettisoned to get rid of its now useless

deadweight. The snag in this method, however, is that as the number of stages is increased to give an ever-higher final velocity to the last stage, the total take-off weight of the entire assembly increases rapidly and soon becomes excessively great if the relatively low-performance chemical fuels available to-day are being used.

IN connection with step-rockets, it may be of interest to mention at this point some of the projects being undertaken at the German Baltic research station of Peenemunde at the time of the Nazi collapse in 1945. The best-known product of Peenemunde was, of course, the rocket weapon popularly dubbed V2—the second of Hitler's Vengeance weapons. The official designation of this rocket, however, was A4—the fourth mark number in the German 'A' series of rockets, work on which was begun as early as 1933, with A1. The prototype of A4 first flew in 1938, the operational version of the missile being finally developed during the period 1940-42.

A4 was a true rocket—that is, wingless, with its purely ballistic range consequently limited to about 180-190 miles. In order to increase this range, it was proposed that rocket A9 be constructed, this missile being, in effect, an A4 fitted with delta planform wings of 75 square feet area. These wings would enable A9 to glide at supersonic speed after pulling out of its ballistic dive from trajectory peak, and the range would hence be increased to about 350 miles. Only two prototypes of A9 were built and fired, however, before Germany capitulated.

Beyond A9, the proposed Peenemunde rocket designs resorted to the step principle. None of these super rockets were actually built, but their design was well advanced. It was proposed to bombard America from Europe with the A9/10 two-stage missile, a winged A9 mounted on a giant A10 booster rocket developing 200 tons thrust. The total weight of this composite missile at take-off was to be about 100 tons, and the range of the A9 second stage would have been about 3000-3500 miles with a maximum velocity of the order of 8000 m.p.h.! A piloted version of A9/10 was also under consideration.

The ultimate in the 'A' series of rockets was the proposed A12, a giant three-stage step-rocket consisting of a modified A4 third

INTERPLANETARY SPACE-TRAVEL

stage fitted to two huge first and second stage boosters. Such a rocket, if successfully developed, would have enabled the A4 third stage to take up a permanent stable sub-orbit around Earth at a distance of about 400 miles from the surface. Hence would have been created the first 'satellite' rocket.

THESE satellite rockets are the subject of a great deal of current attention in astronautical and military circles, and almost certainly represent the first major step towards the construction of true interplanetary spaceships. As officially announced by ex-U.S. Defence Secretary, the late James V. Forrestal, in December 1948 to Congress, the American Government are now actively undertaking large-scale studies—Project RAND—into the possibility of constructing such satellite rockets and artificial satellites ('space-stations').

Satellite rockets are constrained to remain in a fixed orbit around Earth, and above the atmosphere, by arranging that the final height and speed of the rocket, in the horizontal direction, are such that the centrifugal force acting outwards on the missile due to its circular or elliptical motion exactly balances out the gravitational pull of the Earth acting inwards. Under such conditions, the satellite will remain permanently in its sub-orbit without further power expenditure. It is, of course, essential that the sub-orbit be above the atmospheric belt, in order to eliminate the air resistance losses which would otherwise eventually bring the satellite down to Earth again.

However, the task of accelerating an artificial satellite up to terrestrial sub-orbital velocity is almost as great an undertaking as that of attaining escape velocity. Specifically, the equilibrium velocity for an orbit 400 miles above Earth is roughly 17,000 m.p.h.—that is, about two-thirds of Earth's escape velocity of 25,000 m.p.h. As previously mentioned, no existing rockets can come near to achieving a velocity such as 17,000 m.p.h., and satellite rockets are therefore not possible at the moment, but will doubtless become so in the course of development in the next ten years or so.

The main importance of these satellite rockets from the astronautical point of view is that they offer an opportunity to build up a given escape velocity gradually—that is, in

more than one stage. An empty satellite rocket rotating in sub-orbit at 17,000 m.p.h. could be refuelled by tanker rockets brought up from Earth, and this additional fuel then used to accelerate the satellite up to escape velocity: it is immaterial whether this velocity is attained radially, or tangentially, relative to Earth. Escape from Earth could therefore be achieved with a much smaller rocket, although the total amount of fuel used in the operation, by both satellite and tanker rockets, would actually be increased by a considerable factor. Satellite techniques therefore permit the use of smaller spaceships, but do not make the escape procedure less expensive.

TRUE interplanetary return flights will of course entail the expenditure of much more energy than that merely required to reach terrestrial escape velocity. Landing and take-off from the destination planet—which, in effect, means neutralising and then reattaining the escape velocity relative to that planet—orbit transfers, course corrections, emergency reserves, etc., will all increase the amount of fuel, and hence the size of ship, necessary for a given mission. In fact, when all these requirements are taken into account, it turns out that, with any of the chemical fuels at present available, it would be quite impossible to make a return flight to any other planet in a single attempt, as the required take-off weight of the single ship would be so large as to be completely impractical.

It is for this reason that satellite techniques are important. In addition to being employed when leaving Earth, they could also be utilised at other points in a return space-flight. A spaceship would not need actually to land on its destination planet; it could merely take up a sub-orbit about that planet, and then send down small exploratory rockets which had been carried out from Earth in the main ship. Energy would consequently be saved by not having first to lower and then subsequently to raise the main ship against the gravitational pull of the destination planet. The same procedure could be adopted when returning to Earth, the crew being landed in auxiliary rockets while the parent ship was left in sub-orbit ready for further expeditions.

It is safe to say that, as long as chemically-powered rocket motors remain the only means available for propelling spaceships,

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real return space-expeditions will only be possible by the application of satellite techniques.

WITH the prominent place occupied by atomic power in world discussion to-day, it is natural for many people to assume that this source of energy will render interplanetary travel relatively easy in the near future. As it happens, this is far from being the case. It is a far cry from being able to construct a useful industrial power reactor to being able to build a really worth-while atomic rocket motor. The former need only operate at a temperature of some hundreds of degrees, while the latter, if it is to compete at all favourably with its chemical counterparts, must operate at several thousands of degrees. At the present stage of development it is, of course, quite impossible to construct such reactors.

In fact, the most promising application of nuclear energy for space-drive purposes may be in conjunction with satellite techniques, as low-thrust electro-atomic drives would be

quite suitable for spaceships commencing their flights from a sub-orbit. Such drives would incorporate a relatively low temperature reactor producing steam to drive a conventional D.C. generator, the output electrical potential being then applied across a large ion-tube to cause a stream of gas ions to be ejected backwards from the ship at very high velocity. The resulting thrust, although small, would impart a definite acceleration to the ship, and any desired final velocity could be attained by running the drive long enough. This proposed type of space-drive is at present very favourably regarded by a considerable number of competent authorities.

Space-travel, as it finally develops, will not be the result of dramatic single-shot attempts to reach other planets, as is so often pictured in Hollywood movies. Rather, it will be the culmination of gradual advances over many years—first the satellite rockets, then tentative short flights into space and around the Moon, and eventually landings on the planets themselves. It will in all likelihood be of the order of fifty years before the last stage is fully reached.

Five Hundred Miles By Canal

DIANNE J. DOUBTFIRE

ON a cold morning last February my husband and I set out from London in our boat *Gipsy* on a 500-mile tour of England by canal. We had never handled a boat before and so you can imagine we ran into quite a lot of excitement.

We left the murky warehouses of Brentford in a drizzle of rain and soon we were battling with our first lock. On paper we knew all about locks—but this was different. At first I thought my back would break as I pushed against the creaking old balance-beams to open the great lock-gates. My feet slipped in

the mud and the wet mooring ropes bruised my fingers as I dragged *Gipsy* between the slimy lock-walls, and tried to remember how to tie a clove-hitch round a bollard. The windlass, a portable steel handle which we used for opening the sluices, was sometimes almost impossible for me to turn, but the sense of power and victory was terrific as I unleashed at last those seething torrents of water—no less than 56,000 gallons for every lock.

Until I had learned to man the boat efficiently myself, my husband had to stay at the wheel while I worked the locks. I had

FIVE HUNDRED MILES BY CANAL

every incentive to 'learn to drive' quickly—and I did!

On that three-month tour we worked our way through over 400 locks, and when we arrived home again in May we found turning the windlass, or 'winding the paddle' as it is called, as easy as putting a baby's vest through the mangle.

AS winter with its ice and blizzards changed slowly into spring, we nosed our way along the narrow canals to Manchester and back. We went through the dingy backwaters of the big cities—Leicester, Derby, Stoke—where the smoke from the factory chimneys drifted into our tiny cabin and covered our bedclothes with grime. The water was thick with scum and filth and our propeller was constantly menaced by old bedsteads, motor-tyres, mattresses, bottles, and dead dogs and cats.

But that was only a tenth of the story. At least 450 of those 500 miles took us out into the silent beauty of the countryside miles from roads or houses, where we had no company, sometimes for days, but the wild swans and the water-hens. Only the distant roar of a train or an aeroplane would remind us that the modern world still bustled about its business. We bought no papers and the fretful nations might have belonged to another planet. Escapism? Maybe it was. But how wonderful just for three months to live through quiet days, tending the little engine of our craft, cooking our meals by calor gas in the tiny galley, working the locks, and falling in love with our homeland all over again.

When the spring arrived we gathered cowslips, bluebells, and crab-apple blossom from the canal banks, swam naked in the crystal water, or sipped a foaming pint in some canal-side tavern. There was no such thing as time—except when the sun went down and we had to moor for the night. Sometimes we kept journeying on until the stars came out and golden sparks seemed to swirl beneath the prow. The trees would close around us like great shadows and the owls in their branches answered the purr of *Gipsy's* engine.

When at last it was too dark to see our way, we would hammer in the mooring-spikes, light the stove in our little cabin, and eat our supper while we listened to the radio. Sometimes we had no idea where we were. The

map would be forgotten. We only knew we were somewhere in the heart of our beautiful England—and we were afloat!

We had never known such health before—abundant energy, tremendous appetites, and sound, perfect sleep. Most days we were up at dawn. Sometimes I washed up the breakfast things before the last star had disappeared. And the birds! I could never fitly tell how wonderful they sounded singing in the very branches that pushed their way through our portholes.

WHAT a medley of peace and excitement our journey was! At Market Harborough we had to lean over the side of the boat and break our way, inch by inch, through thick ice with a hammer and a boat-hook. At Stoke our boat was robbed, radio and all, in broad daylight while we were out to lunch. On the Manchester Ship Canal the engine got over-heated and we nearly caught fire as we drifted helplessly in the path of an on-coming liner. And on our way home, at Birmingham, I fell into the canal just where it was filthiest.

But most of the time we roamed the country down that quiet silver ribbon of water which wound among the farms and woods, now spanning a river by aqueduct, now delving under a hill by way of a dark, damp tunnel, and for ever changing its level by means of those tiresome and interminable locks.

Some deserted stretches had seen no other boat for months. There the canal was almost overgrown with weeds and branches, and there would be dead sheep, pigs, and rats floating in the water. But on most of the route the trade boats, some horse-drawn, still carried their cargoes. Narrow boats they are called, being 70 feet long by only 7 feet wide. Brightly painted in every vivid colour, and with the traditional designs of roses and castles decorating their cabin-doors, they seemed to cry out for those 18th and 19th century days when the canals first appeared, to revolutionise British commerce. Now the railways have almost put them out of business and the chugging of the boats is seldom heard on many routes.

There is magic in the leisurely life of a boatman. Living in the small cabin with his family, he knows little of the outside world. We met many of these nomad people—brown and hardy, bluntly spoken and warm-hearted.

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Most of them can neither read nor write and the slow journeys backwards and forwards in all weathers make up the whole pattern of their lives. They have a deep serenity, and when they smile it is an honest smile that comes from the heart.

Their little cabins in the stern of the narrow boat, sometimes housing seven or eight children, are adorned with gleaming brasses—knobs, balls of varying sizes, and imitation windlasses—and the beautiful lace-edge plates which hang around the big stove are a tradition on the trade boats. The paintings of castles and roses, lurid and yet simple, are said to be the only remaining example of living folk-art in England.

WE met no traffic on the canals but the trade boats. The pleasure craft were all at their moorings, waiting desolately for the summer. No wonder that people were all the time running to their doors to watch our *Gipsy* go by.

Our greatest friends on the 'Cut,' as the canal is called, were the boat people, the lock-keepers, and the swans—all shy at first and a little wary, then friendly as they came to know us and to understand that, although we were strangers from the Metropolis, we respected their way of life and had no wish to interfere.

The end of our journey was Oxford, and her 'dreaming spires' appeared beyond the trees as we worked our way through the last half-dozen of those 400 weary locks. But the labour of the locks was the price we paid for admittance to those remote and unknown parts of England which the ordinary traveller never sees.

And as I wrote my journal and my husband made sketches to keep those weeks for ever fresh in our memory, I was glad we had set out in February to brave the canals in the snow and rain, to push through fog, to rock in storms—and then to welcome with rapture the first pale sunshine and the celandines of spring.

The Sick Lion and the Fox

(After La Fontaine)

*Within his lair, but off his feed,
The Lion lay, and so decreed
That all the other beasts should pay
Their homage to him where he lay.
Promise was given under seal
That none should suffer who should kneel;
None who obeyed—the King protested—
Should be in any way molested,
Nor for regret have any cause
From nearness to his teeth and claws.
The royal edict was obeyed
By all except the Fox, who made
The gravamen of his objection
Footprints that went in one direction
Towards the throne but then, alack,
Showed never a sign of coming back.
'In view of that,' he said, 'we must
Regard the outing with mistrust,
And though no passport is refused
We beg that we may be excused.
Such passports certainly provide
That we may safely go inside,
We know full well; but do we know
How we obtain our leave to go?'*

WILFRID THORLEY.



Justice was Met

THOMAS KELLY

PETER MOONEY was raking hay in one of his upland fields when he saw the civic guard cycling along the road which skirted his farm. He grunted as the man in blue dismounted opposite the path which led uphill by his boundary wall. Suddenly he recognised his visitor as Guard Brian Loftus, a distant cousin of his own. He breathed more freely.

'Good day to you, Peter, good day,' the man in uniform called as he came near.

'A very good day to yourself,' Peter responded.

'Lovely weather we're getting, though a spot of rain'd do the country no harm.'

'Well now, it would and it wouldn't.' The old man studied the fleecy clouds sailing overhead. 'Twould be bad for the hay, though good for the growing crops.'

His visitor laughed. 'You're like all the farmers. You want rain in one field, sunshine in the next.'

Peter Mooney fidgeted with the handle of the rake. Loftus was clearly deferring a disclosure as to the object of his call. 'It isn't often I have the pleasure of a visit from yourself, Brian. Were you—ah—wanting to see me special?'

'Merely a routine visit in the normal course of duty.'

'Duty?' echoed old Mooney with some uneasiness. 'You mean this is an official call?'

The civic guard's nod was pregnant with meaning. 'As you correctly interpret, Peter, the visit is in my official capacity. Have a fag?'

Mooney declined the cigarette, announcing that he preferred the old pipe. 'We'll have a smoke in comfort.'

THE two of them moved to a grassy mound and sat down on laps of hay. The old man filled his blackened clay-pipe with much ceremony, while the other blew smoke-rings with practised skill. 'I have the dog-licence,' Peter ruminated while he tried to guess the reason for his visitor's call. 'My cattle don't stray on the roads. I dipped my sheep. I'm—er . . .'

'You're a peaceable man with the neighbours,' the other put in helpfully. 'You can carry what you hold on fair-days, and you're no poacher.'

'Every word of it true as gospel, Brian. I think I can claim that I keep on the right side of the law?'

The guard waved his cigarette. 'Maybe you're forgetting that the law has more branches than a chestnut-tree?'

'You never said a truer word. And if you

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obey one law too carefully, you might be breaking another.'

Mooney puffed vigorously to get his pipe alight, while the other man put in significantly: 'That—that old-age pension now is a grand thing in its way.'

'Just so, just so: in its way, it is.' The reluctant admission came slowly.

'A great boon, for aged men and women of small means, to have a little comfort when they're turned the seventy.'

The old man cast a shrewd glance at his visitor. 'Small means is right. Given without meanness, to people of the required years, it *could* be a creditable thing. It's given to them that never scraped or stinted, but the frugal man gets no sort of fair-play.'

'Easy now, Peter. It's not as bad as all that. The Act is fairly administrated. So you—you had a try for it yourself?'

'And why wouldn't I? Amn't I going on for seventy-one?'

'Mind you—speaking offhand, and not in any official capacity—I'd have thought you were a trifle on the snug side to qualify.'

'Snug, how are you!' Peter Mooney grunted, pressing down the red ash in the bowl of his pipe. 'The labouring-man is better off to-day than the struggling farmer.'

'Still, you haven't the name of being down-and-out?'

'There's such a thing as keeping the best side out, even when you haven't one.'

'You're telling me!' Guard Loftus laughed. 'For one thing, cattle are fetching a powerful price these days.'

Mooney shrugged away the suggestion. 'Oh, there's great prices going, till you try to sell. And things are coming down in the shops, till you go to buy.'

'Still, you have your family well provided for. I heard that the means test is stricter than ever now, and the new pensions officer is very hard to get past.'

'As hard as the hob of a certain place I won't mention, Brian.'

Guard Loftus fixed his eye on a distant tree in a corner of the field as he remarked: 'I suppose that he came out here to interview yourself?'

'He did so, bad cess to him!'

'A clever official, by all accounts.'

'There's such a thing as being too clever.'

'A man on his job has to be wide-awake.'

'Ach,' rasped Mooney, 'You'd think 'twas out of his own pocket 'twas coming.'

'He has a duty, to protect the taxpayers,' the man in blue stressed. 'Listen here to me, now: Did he cross-examine you very strict?'

'Cross-examine isn't the word for it. He nearly turned me inside out.'

Guard Loftus flicked the ash meditatively from his cigarette. 'Do you tell me that, now? They have to be strict, I expect.'

'When was I born, where was I born, and why was I born? Was I ever in Australia or Madagascar, and where was I living the last fifty years?'

'You see, Peter, the officer has to protect the public against those who might try and obtain something to which they weren't legally entitled.'

Mooney looked sharply at the other, pious indignation on his weather-tanned face. 'And amn't I one of the public he's protecting?'

His companion nodded, then pursued stolidly: 'Tell me this, now. Did he question you very close about your *means*?'

'He might have suspected I was a millionaire. How much had I in government loans and foreign stocks? Did I own streets of houses, and lend money at gombeen? What pensions was I drawing already, and how much had I in the bank?'

'Routine questions, no doubt, meant to elicit the full facts of your financial position.'

'"I've cartloads in the bank," says I. "In the only bank I have dealings with—the turf-bank, below there in the bog."'

The man in uniform shook his head solemnly. 'That was a tactical mistake—to try and get funny with an official. They're not supposed to understand it—not in working hours.'

A self-conscious laugh came from the old man. 'Sure, what harm is there in a little joke?'

'Not if you're joking all the time. But would you say you were joking when he failed to drag the full story out of you?'

'He dragged it the second time,' the admission came ruefully.

The civic guard flung away the stub of his cigarette and sat upright. 'Now I'm beginning to see daylight.' Confidentially he asked: 'Why had he to come a second time?'

'Because of the long tongues of bad neighbours that hasn't the courage to sign their anonymous letters. He had me so confused the first time, about investments and incomings, that I forgot to mention the few acres I have back in Ballyscadden.'

JUSTICE WAS MET

An involuntary whistle escaped the guard. 'Haven't you fifty acres of prime land there?'

'Didn't I tell you he had me sort of bothered?' Mooney's answer displayed some irritation.

'You were very ill-advised to try and keep anything back.'

'Ah, sure he had me so moidered, with his talk about securities. What has a man like me to invest?'

The retort came with a snigger: 'You invested in fifty acres, Peter, and forgot all about them. Tell me this, now: Did he administer a caution on either occasion?'

'Caution? That's a queer thing to ask. Couldn't I see that he was primed to the teeth with wicked gossip, and he as cranky as a weasel about it?' Mooney paused, then asked tartly: 'Why should he caution me?'

'So he didn't warn you that anything you'd say would be taken down and might be used in evidence at a later stage?'

'Evidence?' repeated the old man as he flung away his last spent match and automatically took the box which Loftus proffered. 'Is it evidence against me you're saying?' He peered at the sheet of paper the other man was uncreasing with maddening deliberation. 'That's a—an ugly-looking piece of parchment you have there, Brian?'

The civic guard grinned. 'You didn't ever get one of them before, I suppose?'

'It looks remarkably like a summons,' Peter Mooney responded.

'It does so.' The admission was emphatic. 'It looks remarkably like one, for the best reason in the world. It is a summons.'

Mooney made no attempt to conceal his indignation. 'Not for me, is it? Sure, how could it be for me?'

'Because it's addressed personally to Peter Mooney, of this townland, parish, and barony.'

'You must be making a mistake, Brian Loftus. How could a summons be addressed to me?'

'However it happened,' the man in uniform pursued calmly, 'it charges you with the making of false statements—to wit, the concealment of means with a view to obtaining, or continuing to obtain, a pension to which you were not entitled by virtue of the relevant sub-section of the said Act.'

'Well, of all the outrageousness,' Peter Mooney spluttered, discarding his pipe and jumping up from the hay-lap. 'I knew that

officer was no friend of mine, right from the start.'

Loftus, lying flat on his back, merely blinked in the sunlight. 'Most likely the officer was severely impartial. Maybe your house didn't strike him as the likely domicile of a prospective pensioner.'

'Spite, that's what it is! The spite of jealous neighbours.' The angry old man shook a fist towards a house in the distance.

'Still, it doesn't sound as if you'd been—er—terribly straight over the affair. If I was you, I'd have a lawyer to defend me.'

The new angle on his case made old Mooney forget his indignation for the moment. 'I will that! The best lawyer in Cloghergully. Which of them would you recommend? A good advocate should be able to turn that lad inside out.'

'I wouldn't be so sure of that,' the guard countered impartially. 'The officer'll have what you said taken down in black-and-white. Even Mr Mac himself couldn't shake a report was written on the spot.'

For a while Peter Mooney, deep in thought, looked down at the sprawled figure in blue. Then he ruminated: 'I suppose now there isn't any—there wouldn't be a—you wouldn't have any suggestion yourself? I mean as to how I could wriggle out of it.'

Guard Loftus considered the point. 'It might be good policy to plead guilty, and throw yourself on the clemency of the Court.'

'Never!' Mooney again shook an angry fist. 'I won't crawl to the highest Court in the land. I'll throw myself into their teeth first. Didn't you say that officer should have cautioned me?'

'I did not!' Loftus countered with emphasis. 'I merely asked the simple question, had he done the likes. But now that I remember it, I'm distinctly of the opinion that administering a caution before questioning is the sole prerogative of *Garda Síochána*.'

Mooney's comeback was an impatient wave of his hand. 'Ah, there must be *some* way of getting a crack at that lad.'

'Be content with the boomerang you had already.'

FOR a while the silence in the corner of the hayfield was broken only by the trilling of the larks overhead. Guard Loftus produced a packet of cigarettes and without a word the old man accepted one. When it was

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alight, he settled himself again on a mound of hay and ventured: 'I'm sure Mr Mac'll have a brainwave to help me out, even if a clever man like yourself hasn't one.'

Lazily the man in uniform watched a procession of smoke-rings dissolve and vanish. Then he spoke deliberately: 'I don't go in for brainwaves. But you remind me of a case I once heard in Court, against a man of about your own years. The poor fellow was as deaf as a stone wall, and they all got tired shouting questions at him. He told me after 'twas the first time his deafness came to his rescue. But that's no use at all to you, Peter, as you're not deaf.'

Old Mooney coughed and spluttered as he held the cigarette away. 'The cigarette, Brian. That's why I never use them. They always give me a smoker's cough.'

With an indulgent smile the younger man puffed vigorously. 'I was telling you about a man in Court, how the deafness helped him out of a tight corner?'

'I know you're trying to tell me something, Brian. Speak a bit loftier, if you please.'

'The man I mentioned was stone-deaf,' the guard asserted loudly.

His companion looked at him bleakly. 'You're still talking, because I can see your lips moving.'

At the top of his voice Loftus shouted: 'I said *'twas almost a pity you weren't deaf.'*

Mooney's head went wagging up and down despondently. 'Dear, dear. I don't know who you're talking about, but I'm sorry to hear the poor man is gone.'

'There's nobody dead, you omadhaun!' rasped the guard. 'I said the man was deaf—d-e-a-f—deaf!'

The ghost of a smile flitted across Peter Mooney's face. 'I think maybe I'd hear you better if you didn't shout, Brian. Speak slowly and distinctly, please.' He cupped his hand behind his ear.

Guard Loftus shook with uneasy laughter. 'Well, if you're not one of the world's prize twisters, I'm a Dutchman.'

'And who put the idea into my head?' old Peter questioned with a grin.

'I did nothing of the kind.'

'Oh. Maybe you'll say next that I didn't hear you correctly.'

'I simply told you about a case that I once listened to in Court, and I on duty there.'

Mooney gave way to hearty laughter. 'Now, isn't that the remarkable thing about it? I

mean being a bit hard of hearing in Court. You need never tell a lie about it.'

'Only a really good actor could do the likes,' commented the man in blue, trying to dismiss the subject.

'What, actor are you saying? Sure, you need only look as blank as a baby, and keep saying: "Speak up, sir, will you, if you don't mind," or maybe, if it suited the occasion: "Could you speak a bit more lofty, Your Worship?"'

Loftus shook his head negatively. 'Codology like that would most likely only vex the District Justice.'

'Ah, he's a much kinder man than that, Brian. Sure, he's used to dealing with all kinds of awkward people. Even if he got cross with me and yelled: "Can't you hear me?", couldn't I say innocently that I'd never any trouble before in hearing people who pronounced their words distinctly?'

'Well, that's a good one.' The civic guard slapped his thigh. 'Don't we all think we pronounce our words perfectly? Especially when we don't know any better.'

'There you are, then. He'd only say: "Take that poor fellow out of here. His trouble is vanity. He's too proud to admit he's as deaf as a gatepost."'

The guard laughed in spite of himself. 'Well, if that isn't the greatest bit of blackguardism ever I heard! If your brain was working like that and you a young man, how did you keep out of prison all your years? But you're a lucky man that the civic guards have nothing to do with the prosecution.'

'You mean the civil officials'll handle me gently?'

'I mean that you're a caution of a scoundrel. But I'd better be off. If I stay any longer it might be suggested that I was as good as encouraging you in your nefarious design.' Loftus stood up and brushed some wisps of hay from his tunic.

'Sure, you gave me no encouragement,' Peter Mooney remarked wide-eyed. 'You only told me a story. The brainwave was entirely my own.' To himself he went on musingly: 'The evidence that I'll give in this Court won't be the whole truth, or anything like the truth, because I'll never say a word at all.'

'Well, I hope it keeps fine for you.' Loftus started down the hill field as he added: 'Good day to you now, Peter Mooney.'

'Will you speak a little louder, sir?' the old

man called after him. With an impish grin on his face he finished: 'I never have any difficulty understanding people whose pronunciation is correct. Ha, ha, ha. . . ' Slowly he went across the field to his hay-rake.

THREE weeks later Guard Brian Loftus was on duty in the dayroom of Cloghergully Garda Station. Carefully he unfolded that week's edition of the *Cloghergully Star and Sentinel* and settled down to read the report of the cases heard at the latest District Court held in the village. He lingered over the account of the proceedings instituted by the State against Peter Mooney. He shook his head solemnly as he perused the final sections of that account: 'The District Justice stated that he would like to comment in particular on the extremely fair manner in which the case against the old man had been presented by the pensions officer. Mr Moriarty

had quite candidly admitted that, until the defendant had been called to the witness-chair, he was unaware that Peter Mooney suffered from extremely defective hearing, and so might not have fully appreciated the exact significance of the questions addressed to him by the official.

'Continuing, the District Justice stated that, while he made the suggestion with all due deference to the Ministry responsible, he did think it desirable that in such cases the relevant questions should be reduced to writing, and written answers obtained. In all the circumstances of the present case he thought that justice would be met by his dismissal of the charge on the merits.'

Guard Loftus looked thoughtful as he refolded the paper. 'I wonder now,' his thoughts ran as he drew a pad of official forms across the table, 'I wonder now, could I, by any stretch of the imagination, have been regarded as aiding and abetting?'

Kenya

Major IAN S. BISSET

MUCH in the news recently has been the unhappy colony of Kenya. A year or two ago I had the good fortune to spend a foreign-service tour in that fine country and it made a strong impression on me. I was impressed by its natural beauty and freedom and its great potentialities. I also sensed, for this was not difficult, the presence of an undercurrent of racial distrust which was bound, one day, to erupt.

GEOGRAPHICALLY, Kenya consists of three main, and distinct, regions—the Northern Frontier Province, the Coast, and the White Highlands. To the European settler the last-named is the most important.

The Northern Frontier Province, or N.F.D. as it is always called (the 'D' stands for 'District'—I can only assume that at one time the region was classified merely as such), occupies four-fifths of the colony and consists of arid desert and scrub, where little grows but thorn-bushes and an occasional palm-tree. It is sparsely populated by Somali nomads and a few unimportant and primitive Negro tribes, such as the Turkana and the Samburu. It abounds with almost every known kind of game, including numerous varieties of buck, lion, giraffe, buffalo, elephant, rhino, and zebra.

The province is of little economic importance except as a trading or caravan route between Abyssinia to the west, the Somalilands

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to the east, and the coastal region to the south. In this connection it is interesting to note that, whilst the camel is still used for local transport purposes, when it comes to long-distance haulage the modern 'ship of the desert' is an ancient ten-ton diesel lorry largely tied together with string.

Less than a hundred Europeans live in the N.F.D., but it is much visited by big-game shooting-parties, although, for a number of reasons, this sport has declined considerably since pre-war days. This is a pity, as it used to bring a good deal of money, including dollars, into Kenya. I have spent a certain amount of time in the N.F.D. after big game and my experience of this sport is that it involves a great deal of hard work with very little to show for it. However, it is a most exciting pastime, with a strong element of danger. I wouldn't have missed the experience for the world.

THE contrast between the N.F.D. and the coastal region is extreme. They have only one thing in common: both are hot—not unbearably so, but much hotter than the White Highlands. And there all similarity ends, for the Coast is an area of lush tropical vegetation, exotic fruit, colourful flowers and shrubs, coral-reefs, silver sands, and tall coconut-palms rocked by the soft breezes from the Indian Ocean. The region is densely populated by a number of native coastal tribes and a cosmopolitan conglomeration of Arabs, Sikhs, Hindus, Goans, and Somalis—not to mention the ubiquitous Greek, Jew, and Levantine.

The only town of any importance on the Kenya coast is Mombasa, with its fine modern port of Kilindini. Here are handled all the imports and exports of both Kenya and Uganda. Mombasa is not only a town of commercial importance, but it is also the centre of a popular holiday area. It has several good large hotels and for thirty miles up and down the coast are dotted numerous small hotels, pensions, villas, and bungalows, to which the European settlers from the highlands come down once or twice a year, to relax from the strain of living at between six and eight thousand feet.

The attractions of the Mombasa coast include golf, on an excellent course; some of the best sailing in the world, amongst a maze of palm-edged creeks and coral-reefs; exciting

deep-sea fishing; and shark-free bathing, or drifting in a native canoe. Personally, I cannot recommend the last, having once had a long swim when a canoe capsized under me half-a-mile from shore. For anyone with no desire to be energetic there is the very pleasant pastime of just sitting in the shade of a palm-tree with an iced John Collins.

A most fascinating place to visit is the old Arab island port of Lamu, world-famed for its brass-studded chests. It is within easy motor reach of Mombasa and a trip there is very well worth while. Unfortunately, Lamu chests are poorer in quality and cost very much more than in pre-war days.

THE Uganda mail-train leaves Mombasa at five p.m. and by the time darkness is complete it has already climbed a thousand feet. By first light next morning it is nearly five thousand feet above sea-level and still climbing at the rate of five hundred feet an hour.

When the traveller first looks out of his coupé window he is quite likely to find his gaze met by the soft brown inquisitive eyes of a giraffe and he is certain to pick out hartebeest, Thomson's gazelle, and ostrich, in full view, for the gently rolling veld country, in which he finds himself, is in the heart of the game-reserve.

The mail-train is now approaching that vast ridge of plateaux and mountain-ranges which straddles the Equator for five hundred miles and is known as the White Highlands. It is a green fertile land, with a heavy rainfall, and well watered by river and stream. It grows coffee, tea, maize, wheat, pyrethrum, sisal, bananas, and pineapples, and supports fine herds of sheep and cattle, whilst the rivers are stocked with brown and rainbow trout. It is a land of warm sunshine and cool nights. It is a paradise for the man who loves the open spaces, sport, sun, and fresh air, and who has no time for picture-houses, greyhound-racing, fish-and-chip shops, or any of the other forms of mass entertainment apparently so essential to the happiness of so many.

The existence of high inland mountain-ranges was known early in the 19th century, although the first explorers' accounts of a snow-peaked mountain, Mount Kenya, actually on the Equator, were laughed out of school by contemporary scientists. It was not, however, until the tail-end of the century

that the potentialities of this area were first considered by the white man. It was not, in fact, until it was decided to build a railway connecting the much older colony of Uganda, hitherto reached by way of the Nile, to the sea at Mombasa that the white man first realised that these fertile highlands, through which the line would pass, possessed great possibilities for European settlement.

THE earliest settlers of Kenya were largely Boer farmers. The first Englishman to see the country in proper perspective was Lord Delamere, who arrived there with a party of friends, via Aden, the Somalilands, and the N.F.D., on a hunting-trip. He returned home much impressed, revisited next year, and subsequently came back and bought up great tracts of land around what is now Nakuru. Over the next thirty-five years he sank a fortune in experimental farming, bankrupted his English estates in the process, and founded a colony.

Delamere was a man of unique force and determination, but with a character made delightful by an impish sense of humour. He had a love of wild parties, and as a young man he once drove his mule-cart at breakneck speed through the main street of Nairobi—now called Delamere Avenue—shooting out with his revolver the newly-installed standard-lamps.

He was convinced of the future of large-scale farming in these rich highlands, on the lines of the Australian and Canadian ranch. It was, indeed, as a new dominion that he saw Kenya, and throughout the rest of his career he waged constant battle with the Colonial Office for the rights of the white settler. The Colonial Office tended to place native interests before those of the settlers, whom they appeared to regard as intruders and exploiters of cheap labour. Delamere disputed the rights of the African, basing his case upon the fact that before the coming of the white man the highlands were very sparsely populated and completely undeveloped. He also pointed out the fact that there was ample and more suitable land to support the entire native population of British East Africa at lower altitudes.

Delamere divided his time between politics—he was for many years leader of the elected minority in the Legislative Council—and experimental farming. He tried wheat-growing,

sheep-farming, and stock-rearing, and started numerous subsidiary enterprises, such as creameries, flour-mills, and bacon-factories. He suffered catastrophes at the hands of the elements and pests. Constant ill-health failed to bow him. He died a poor man, whose mistakes and trials had cost him a fortune, nevertheless the fortune was not lost—it had bought a wealth of experience for the benefit of the thousands of farmers who came after him.

The majority of these farmers settled during the five or six years after the First World War. They endured great hardships in their early days. They had to make their way from Nairobi with their entire possessions piled on mules or bullock-carts. They built houses with their own hands, often twenty miles from their nearest neighbour, amongst uncivilised natives of whose language they knew nothing.

But they worked hard and played hard, those old settlers. They raised fine crops and herds and built fine houses, schools, clubs, race-tracks, polo-grounds, and golf-courses. During the slump they were badly hit, but those who weathered the storm found prosperity with the Second World War. I do not mean by that that they sat at home to make money. It was the women of Kenya who ran the wartime farms, whilst the men joined the King's African Rifles or locally-raised volunteer units, and a large number of them saw service in Abyssinia, Burma, and the Desert.

They are a fine breed these old settlers who have carved their own destinies from the red soil of Africa. And now there is a second generation growing up, some in their early twenties and some still at school, either in Kenya or in the old country. Good luck to them!

WITH the end of the Second World War a new European invasion of Kenya began, but I think that much of the old pioneering spirit was missing this time. This was, of course, in large part due to the fact that there was little virgin territory left, and it is difficult to work up a pioneering spirit where there is no pioneering to be done. Another factor was that a good proportion of these new settlers were not young with their lives in front of them, but retired people in search of a standard of living which they had

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failed to find at home. Many of them had spent their lives in India. Still, they included a number of young potential farmers newly out of the services and most of those I met seemed to be of the right type for the country and should be happy there.

There was a third element amongst the new settlers—the shopkeepers, clerks, and artisans, who came out in large numbers and settled in Nairobi and other towns such as Nakuru and Eldoret. I do not think that the majority of them are happy in Kenya, largely because economic conditions there do not really cater for the maintenance of a class of European who has to compete on the labour markets with Indians, Goans, and even educated Africans, all of whom are prepared to accept a comparatively low standard of living. In addition, the artisan tends to find himself unsettled by the absence of the advantages [*sic*] of city life at home.

Quite a number of these people have already returned home, and I am afraid that more will follow. This is a pity, as many of them are fine fellows and Kenya badly needs skilled craftsmen. The Asiatic and the African are not really first-class craftsmen, but, unfortunately, the employer tends to prefer the second-best at fifteen or twenty pounds a month to the best at forty or fifty.

NOW let us turn to the indigenous inhabitant of Kenya—the African. To understand him the important fact which must not be forgotten is that fifty years ago he was a complete savage, without any vestige of culture or education, with very few crafts, and with no form of civilisation or religion, nor contact with any. The limit of his ken was his neighbouring tribe. Even to-day those Africans who live in the native reserves, and they represent a large proportion of the total, are little different from their grandfathers. The only major change in their way of life is the fact that tribal warfare has ceased.

A second vital factor which must be remembered is that there is no traditional cohesion between the African tribes of Kenya. The country's frontiers were created by the European and are not related in any way to the characteristics of the races they encompass. In fact, before the arrival of the white man the tribe was the largest entity there was and the only relationship which

normally existed between one tribe and its neighbour was a state of war.

To-day the Africans of Kenya are integrated in so far as they are jointly represented on the Kenya Legislative Council, but, as very few of them have any political consciousness, that integration is more theoretical than actual. In this they differ much from the Indian community.

Beyond this the only other semblance of African unity lies in the existence of certain trade or political organisations which claim to speak for the African as a whole but whose membership is mainly confined to a minority who live outside the tribal areas, in and around the large towns and European settlements. I do not mean to suggest by this that none of the leaders of such organisations have the welfare of their tribal brethren at heart but merely to stress that they are by no means representative of them.

IT would be possible to fill a book on the subject of the characteristics and habits of the different Kenya tribes and I must, therefore, confine myself to reference to only one, the Kikuyu. I select them, not because they are in any degree typical of the Kenya tribes, rather the reverse, but because they are the largest, because they have the closest contact with the white community, and because it is from their numbers that the secret society Mau Mau is, for the present at least, exclusively recruited.

The main Kikuyu reserve is an oblong strip of territory, just over a hundred miles long by forty across, running north and south between the foothills of Mount Kenya and Nairobi. Their land is mountainous but fertile, and lies, in the main, at about 6000 feet above sea-level. There, four-fifths of the tribe live a simple and generally lazy existence and, unless there is a hut to be mended or a stream to be dammed, the men are happy to squat together in the shade whilst their womenfolk till the soil and their children tend their cattle and sheep.

The close contact of the Kikuyu tribe with white civilisation comes of the fact that all around their reserve lies one of the main European farming areas, and close by is the city of Nairobi and many smaller townships, such as Nanyuki, Thomson's Falls, Gilgil, and Naivasha. The reserve itself is straddled by a motor-road and a branch line of the Kenya

and Uganda Railway. Not unnaturally, large numbers of the tribe have been attracted away from their reserve to take up employment as farm-hands, servants, labourers, and, in some instances, clerks and semi-skilled tradesmen. Others have set themselves up as pedlars, petty thieves, scroungers, and street-corner boys. Farm-hands and servants are, as a rule, well housed by their employers. The remainder have established squalid settlements built of old tins, mud, and corrugated iron on the outskirts of every European township.

The Kikuyu is generally unpopular with the white settler and, for that matter, with most of the other tribes. He is regarded as lazy and dishonest, and I must confess that my own experience of him, compared with members of other tribes, confirmed the former opinion, though I am not sure that his reputation for dishonesty is not due primarily to the fact that the tribe has more opportunity than any other. In their defence I must say that, with all their faults, I liked the Kikuyu. I had several of them as servants and found their natural charm, love of children, and sense of humour most likeable.

The close contact of the Kikuyu with the European has tended, quite naturally, to make him jealous both of the white man's standards of living and of his success in farming land which was once regarded by him as barren. Equally important, the tribe has greatly increased in population over the past fifty years and the rich strip of land which was once sufficient to provide for its primitive needs is now on the small side, but cannot be expanded without taking away other land which has been bought and developed by the white settler. Actually, the position is not as bad as many make out, and a large part of the Kikuyu's difficulty comes more from bad husbandry than land-shortage, and the tribe stubbornly refuses to be advised on the best methods of combating soil erosion.

For some time there has been a good deal of agitation about these conditions, not so much on the part of the tribal chiefs, but by educated and semi-educated Kikuyus living generally outside the reserve. It has been their claim that the white man has stolen their lands and exploited the tribe. This agitation, and an apparent tendency of the Colonial Department to support the African against the white man, has created a good deal of alarm amongst the settlers, who have a well-developed political organisation, which

has been not unsuccessful in obtaining some concessions in their interest.

Each side fears that the other will achieve too much of its own way, and fear is the natural breeding-ground of hate. That hate has manifested itself in the form of the Mau Mau secret society, and this is perfectly in keeping with the nature of the primitive Kikuyu tribesman, who still retains a strong belief in witchcraft and revels in strange and barbarous rites and ceremonies, including the circumcision of adolescent girls. To me it seems that the society may have been cunningly devised from outside the reserve in a form most likely to appeal to more primitive minds within, and the fact that there are to be found large numbers of young men of warrior age forced into idleness through the cessation of intertribal warfare must be a potent factor in its recruitment.

I have heard of no events in Kenya which might have been responsible for the timing of this unpleasant eruption and I think it possible that it may have resulted from recent happenings in Persia and Egypt. I would hate to have to predict how this unhappy business will end. Obviously the Mau Mau must be put down, but the root cause of the evil will have to be eliminated, and this is not going to be easy, for there is too much right on both sides. Clearly the solution must be one of compromise, but its keystone must be the elimination of fear.

UNHAPPILY a satisfactory settlement of the differences between the white settler and the Kikuyu tribe, and to a lesser extent certain other tribes, does not put an end to Kenya's racial problems. So far I have said very little about the Indian. There have been Indians on the coast since craft were first built to cross the Indian Ocean, but it was not until the construction of the railway that they made their way inland. They came in the first instance as coolie labour and they stayed on and multiplied as only orientals can.

To-day the Indian is everywhere. Eighty per cent of the skilled workmen, eighty per cent of the clerks, all the stationmasters, ticket-collectors, and small shopkeepers are Indians. A big proportion of Kenya's trade, including most of the Nairobi hotels and restaurants, is in their hands. Needless to say, the Indian, who has in the past been kept

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down, is now demanding a large share in the government of the colony. He is strongly politically conscious and not without ambition. He is less tolerant of the African than is the European and thus the African is fearful of his achieving his ambitions. The Indian, on the other hand, with the South African scene before him, is equally frightened of the white settler gaining political control of the country, whilst the European is afraid of the Indian gaining too much financial control.

There have been a good many cases in recent years of Indians maltreating African employees, and I am surprised that there has been so little retaliation on the part of the Mau Mau. I am sure that the Indian community must be very nervous at present and, for that reason, will keep quiet for a time.

However, they form an integral part of the unhappy jigsaw of racial fear and must not be overlooked in its solution.

It is sad to think of the conditions now existing in the Kenya I knew so well, with its perfect climate, beautiful mountain scenery, crystal streams, blue skies, fine hospitable settlers, and laughing, happy natives. I can remember so many carefree days spent carrying a gun, trout-rod, or golf-clubs, or astride a horse, but I always knew that just under the skin lay the vile cancer of racial fear, and perhaps it is for the best that it has come to the surface as soon as it has. Perhaps it will make the cure easier, but it is tragic that it has revealed itself in so ugly a form.

The Naval Knights of Windsor

P. W. INWOOD

MENTION in the House of Commons a little while ago of the Naval Knights of Windsor, in connection with estimates for the Royal Naval College at Greenwich, provokes curiosity about the nature and history of this little-known body of men, which, in point of fact, no longer exists.

Their original title, Poor Knights, which they held in common with the senior and still-existing body, the Military Knights of Windsor, was altered by Act of Parliament in 1861.

A little research into their origins and history discloses that a certain Mr Samuel Travers, Auditor-General to the Prince of Wales (afterwards George II), long and seriously considered how he might do the greatest service and most lasting good to mankind, a laudable though difficult task, so he set himself to provide a better way of educating young men of quality and con-

dition in the principles of virtue and honour and in useful learning. In his will dated 16th July 1724, however, he says rather pathetically that he met with some discouragement to his plans and concluded that the age was not disposed to receive so great a benefit, a mournful reflection with which parents of wayward sons will sympathise. One may suppose that the young men of quality and condition preferred the dice-tables.

But, far from wearying of well-doing, Mr Travers turned his thoughts in another direction and bequeathed the residue of his estate to his executors and their heirs 'in special trust and confidence that they shall and will out of the rents, issues and profits of the said estate settle an annuity of £60 to be paid to each and every one of seven gentlemen to be added to the present eighteen poor Knights of Windsor' (the Military Knights).

THE NAVAL KNIGHTS OF WINDSOR

He humbly prayed His Majesty that the seven gentlemen might be incorporated by charter.

Also, under the will, a building was to be erected or purchased out of his personal estate, in or near the Castle of Windsor as a habitation for the seven, 'who are to be superannuated or disabled lieutenants of English men-of-war. I desire that these gentlemen may be single men, without children, inclined to lead a virtuous, studious and devout life; to be removed if they give occasion for scandal.' Tough conditions for the times, leaving nothing to chance, it might be said.

He would have them live in a collegiate manner, £26 a year being deducted from their annuities to keep a 'constant table.'

ALTHOUGH Mr Travers died in 1728, nobody got any benefit from these provisions of his will until seventy years had passed and the charter was granted in 1798, proceedings in Chancery having occupied the interim. It may be thought surprising that anything at all was left for the Poor Knights, for in those days, if Mr Gay's satire is any guide:

*If lawyer's hand is fee'd, sir,
He steals your whole estate.*

The grant of the charter by George III seems to have inspired another philanthropist, a Lieutenant Braithwaite, R.N., to a testamentary disposition in favour of the Knights. In his will of 21st September 1805 he bequeathed for ever the interest of all his property—'(but never to meddle with the capital),' he added warningly—to be divided share and share alike among the seven Naval Knights, or as many as may be of the seven. But there was to be no hanky-panky, for he desired it to be understood that on no consideration was there to be an increase in number of the Knights in consequence of his bequest. Should any part of His Majesty's government think proper to increase the number mentioned in Mr Travers's will, then the bequest was to be revoked and transferred to the Marine Society in Bishopsgate Street, 'or wherever else that noble institution is held.'

Clearly Lieutenant Braithwaite approved of Travers's ideas and he emphasised that his own generosity was conditional on everything in Mr Travers's will being put fully

into force 'and that good harmony is to subsist' between the Knights, who should all dine together every day 'unless called on business elsewhere.' For this purpose all his plate was to be sent them, but would revert to the Marine Society with his other property in default of the execution of the conditions of the will. In the event, the Knights got the benefit of the will, but not until 1809.

AND so the Knights lived peaceful and comfortable lives for nearly a hundred years, each in his separate residence, forming part of a terrace facing the gardens of the Dean and Chapter of Windsor at the foot of the Castle slopes. Each house was of two floors, 'affording adequate accommodation for an unmarried officer,' and the centre house had a mess-room and library for general use. No monastic severity about that.

Each vacancy among the seven was to be filled by the choosing of three lieutenants by the Commissioners of the Navy. Of these three, the Lord High Admiral or the Board of Admiralty were to choose two; and 'the King's Majesty to nominate one of them, and so on from time to time, for ever.' So said Mr Travers's will.

But for ever is a long time, and 'owing to the difficulty of finding persons eligible for appointment, and for other reasons,' not specified, the Corporation of the Knights was dissolved by Act of Parliament in 1892.

We may wonder what lay behind that simple statement. Was it that no superannuated or disabled lieutenants, who were single men without children, could be found? Or that, if found, they had no inclination towards a virtuous, studious, and devout life in the seclusion of the Windsor precincts—under the minatory eye of Victoria the Good? This is possible, perhaps, since we have it on the sound authority of Rudyard Kipling that 'single men in barracks don't grow into plaster saints,' and the Chaucer specification regarding knights is no longer current.

We shall never know. The surviving Naval Knights of Windsor having been compensated, the income of the Travers Foundation provided pensions for retired officers of the Royal Navy of the rank of 'lieutenant, or those retired from the active list of lieutenants with the rank of commander. And that is how it is to-day.



Blue Ridge

MOSES GREEPH

'**L**OGAN, West Virgina,' said the Want Ad. 'Young man to work in store. Applicants interviewed after 6 p.m.' The address was in Madison Avenue.

Logan—Logan—West Virginia. And a real job.

Meantime, my digs were out past Belvedere Avenue, and once the street-car I was on passed the city's environs it seldom stopped.

'Logan . . . West Virginia . . .' I echoed silently as the car raced. Sounded good, because right now I worked at the Bethlehem Steel Plant mills at Sparrow's Point, jutting out into Chesapeake Bay. Most heartbreaking toil I've ever known. Filling triangular-shaped wagons with slag. And the dangerous staggering weight of it. Still, there were pleading posters round about: 'I love you—don't get hurt. Be careful!'

There had been other jobs—heartbreakers, too. A pasteurised-milk plant, and the killer in the dairy was the heat and the cold. Like criminals working in the matrix of some monstrous mechanical mammal. And the cleaning of the plant—the steam hose and the sweat rolling off you in rivers. But I was going to Logan, and it sounded good. I had that Want Ad. word-perfect, but the owner of the Logan store was young and wary, and he

wasn't keen on hearing there was no sales experience back of me. 'West Virginia'll bore you,' he hedged.

'Look here,' I snapped, 'I'll pay my own fare down and leave on the same principle. Gimme two weeks try-out.'

He stalled, and then asked for my name and address, but he didn't get away with it. Instead, I told him about the steel plant, and then about the dairy.

At first he looked sick, but I hurried on. I told him . . . Told him? Hell, I took him there. 'Listen,' I said. 'I took bottles in couples out of a box on rollers at my elbow, and I placed them on a revolving tank. Two bottles from here to there. From here to there. All the time. I picked 'em up and the other feller laid 'em down. You should see those bottles, sir. Those dumb, white faces. And then you'll know how I hated 'em. And then this steel plant job. . . .'

He began to stall again. He stressed Logan would be different from London.

I said I'd never been in London. He was amazed. London, I informed him, wasn't England, no more than New York City was America.

'You've got something there, kid,' he said.

BLUE RIDGE

What really landed me the job, I think, was the way I stopped talking and looked at his mother each time she came into the room and begged him to have his dinner because it was getting cold.

'The Arrow Department Store, Logan, W. Va.,' I read, and then followed his instructions for the journey.

BEFORE boarding the Virginia train at Washington I had spent some time looking at the massive locomotive. The engineer had been friendly and smilingly answered all my questions. Yes, this was a regular choo-choo. The real stuff. Negro men and women were singing in a near-by compartment.

Several hours later the train came into a bit of the South—not the Deep South, but deep enough for me. The train slowed and I saw a real log-cabin and a stout old Negro woman smoking a wooden pipe. Swanee River mammy in the flesh. If the folks at home had known, they'd have thought I was having a great time. But I wasn't. I counted my money again. Seven dollars, twenty-two cents.

We were in mountain country by this time—the treetops like a million cauliflowers. Night was falling and the voices of the singing Negroes drifted through the pine-fragrant gloom, to be torn by the train's whistle, with its emigrant sound that brought back the weight of that slag shovel—

*On the Blue Ridge Mountains of Virginia,
On the trail of the lonesome pine.*

We were in virgin timber now—a sea of eerie green. The locomotive's headlight stabbed the murmuring solitude like a probing eye, searching the ranks with a roll-call light. The pines, where the beam struck, stared back with Virginian bravery as the honey-melon moon peered over the timber-line like a frightened mulatto girl.

A river that had clung alongside for hours still loped and laughed along. The timber had climbed by now and looked down defiantly. But this was living, and the weight of the steel plant and the chains of the dairy had slipped away.

LOGAN, West Virginia. . . .

I was clawed back to the present and the slab of concrete that was the station.

No barriers, no ticket-collecting, just a surge of men towards the train as if intent on helping it to stop. I followed the crowd, the street, the town—Logan, West Virginia.

I tilted my English derby-hat to look up at a sign—'Liebmann Brothers—Tailors from the Cradle.' A big stout fellow stood by the door. He beamed as he saw me looking up at the sign.

'Could you direct me to the Arrow Store?' I asked.

'By jove, chappie!' he exclaimed, hearing my accent. 'Right there! See the arrow?'

I went in, and the girls looked at my hat, especially the ventilation eyelets punched into the sides. So I took it off to see if maybe there was something wrong with it.

Before I could introduce myself the big fellow from across the way came in. 'That's right, chappie!' he bellowed. 'Tailors—from the cradle—to the grave! You're going to like it here.'

Two of the girls were of Dutch descent—Doskie and Dokie. Then there was Agnes. Her home was up the river at a place called Charles, or Charless, as she pronounced it. She had raven hair coiled around her ears and the nape of her neck. Her grey eyes had a look of wonder in them, like a kid listening to a fairy-story.

The manager of the store was Hungarian. A small stocky man. A chain-smoker of good cigars. An aggressive type, despite the Old Bill moustache. After a couple of weeks I knew him for what he was—a cigar, a lot of patter, a neck and a pair of stick-out ears.

Then there was Conrad, my room-mate, about my own age and not long over from Budapest. His ambition was to save his first thousand dollars. He concentrated on his job, but after work he revealed his sentimental side. He had a pair of dolls his girl back home had given him. One was Conrad and the other his sweetheart. We went around a lot and when the store had a sale we nailed posters on trees. Virgin territory it looked like, but Conrad said the news would get around. It did, and most of the mountaineers brought the posters with them. Lean, tall, and easy-going the mountaineers were, and Logan was the metropolis for about thirty miles around.

I ate at the Busy Bee Lunch, owned by a Greek who couldn't master English and murdered every word he uttered. Yet he

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believed he spoke well-nigh perfectly, and constantly corrected his partner's greenhorn speech.

In the store I took most of the Negro trade. The Negroes were all right—easy, and delighted about spending money.

The Hungarian bunch in the store could mostly give Conrad and me a few years. Chubby little Kahlmann, for ever sweating, had greasy lips, as if he were in the middle of a meal and had forgotten to use his napkin. He would work hard for a month and then lay off for six weeks. Always six weeks. And his clothes ash-ridden on account of those clumsy cigarettes he clamped together.

His friend Kropplieb was an authority on Bach and Beethoven, yet he was perpetually humming the 'Three O'Clock in the Morning' waltz.

Kropplieb and Kahlmann took it for granted I was an Oxford man—an M.A. or something, the least an Englishman could be. Yet it was from them I first heard the name of Chekhov. 'Concision, concision,' Kahlmann would say, putting a finger to his lips when the master was mentioned.

But in the store concision was sweated out. We had to change our shirts each day. Logan lacked a laundry, and almost everybody in the place had an accumulation of soiled linen. We all hoped the smiling little Chinaman would soon open up. But he didn't. Not while I was there. 'Pilly soon. Pilly soon,' he would laugh. After a while these words bubbled from his lips if someone nodded at him. In the Busy Bee one had only to glance at him, and that was enough. 'Pilly soon. Pilly soon.' Some of us thought he was being bribed to hold out because of the trade that was done in shirts. No one bothered about doing his own laundry.

A Bulgar who owned a pool-room and snack-bar often came into our store to have a look round—'to take a notion,' as it was called. He was a rugged giant, who went hunting a lot. On one of his days, I remember, Agnes had her back to me. She was hanging dresses on a rail. Lifting her hand, her dress clung to her waist and hips and showed a good part of her lovely leg. My hand automatically folded the trousers I was piling. Suddenly a finger poked me in the ribs, and, turning round, I saw this elephant-eyed colossus. 'Wassahmaaryoolukh?' he demanded. 'Why do you look?' I told him it was a free country, and he said it wasn't—not for me—nor him. The way he

pronounced the 'k' in 'look' was like a knife.

IT may sound strange how a feller remembers. The Blue Ridge country makes a feller remember, that's all.

One day we wandered past a boulder in a hillside. Conrad, who had been something of an amateur actor in the old country, suddenly looked up at this Juliet in stone and did an exiled Romeo in Hungarian.

On a Sunday we'd sit in the Pioneer Hotel and read newspapers. Sometimes I would lay down with my ear to the ground and listen to the Guyan River. There was music in that river. When old Simon, or Old Si as we called him, first tried to tell me about it I thought he was crazy. But he was right—about the music. I can hear it now. I'll always hear it.

When I said I was pulling out, he told me: 'You'll miss the dawn song, kid. The voice of the mountain dawn.'

'That's right,' I agreed.

'Sure thing,' he said. 'Y'can hear it plain as anythin'. Kinda murmurin'—like a memory. Comes right thru the valley, an' around the bend of the river. Keeps right on goin' as far as the Kentucky Line. But you got to be early. It don't last—don't last—fer long. A minute, mebbe.'

I knew, too, that I was going to miss it. But I couldn't go all sentimental, so I said: 'New York City has a voice, too, Si.'

'Sure it has, son. Sure, I heard it. It's a voice I don't never want to hear agen. Sounded like the cry of a—a gorilla trapped in a chromium cage.'

Old Si was at the train the day I pulled out. 'You'll be back,' he said. 'They all come back. The Blue Ridge country'll never let you be. Cities break your body and soil your soul. Mighty fine gel—Agnes. Likes you, Ah reckon. If you gotta go, kid, try to write me now an' agen. Meetin' that train with mail fer me'd be good.'

'I'll be back some day,' I promised.

I DON'T suppose I'd ever have got down to writing this memory if it hadn't been for the other night. Agnes was bent over a pile of old discs beside the phonograph. All I could see was her smooth grey hair. I was thinking she wasn't getting no slimmer. But

as the wax began to crackle, and then handed over the melody, she looked up and met my gaze. The years seemed to roll away and that fairy-story look was back in her eyes. 'What you got there, sweetness?' I asked—as though I didn't know.

'Sophie Tucker,' she said, watching the disc spin.

*There's a Blue Ridge around my heart,
Virginia,
And I'm as lonesome as the lonesome pine.*

The needle scratched out the final chord.

'Geel!' said Agnes, laying down her darning-

needles. 'That brings it all back—remember? The Guyan valley moon, and the singing river, and everything.' She laughed. 'And the day you walked into the store with your hat on. Funny how the past catches up.'

'Kind of,' I agreed.

Then a voice broke through the dreaming silence that fell between us: 'Y'can hear it plain as anythin',' it said. 'Kinda murmurin'—like a memory. Comes right thru the valley, an' around the bend of the river. Keeps right on goin' as far as the Kentucky Line. But you got to be early, son. It don't last—don't last—fer long.'

Peat-Fire Memories

II.—Our Daily Bread

KENNETH MACDONALD

HALF a century ago, in the main there was ample food, although occasion arose, particularly when crops were bad, when food went a bit scarce. The scantiest time in the crofter's house was always the late spring, in the gap between the tail-end of last year's crop and the following harvest.

This was a bleak period for the cattle also, as last year's stacks were exhausted and the new grass had not arrived. The economy was bad. The crofter mostly kept three or four cows and followers, and his croft was not big enough to keep him. He got a little milk from each cow, and it was arranged that the cows calved at different times during the year. They gave him milk all the year round. There was no scarcity of milk as a rule, and if circumstances were such that the cows calved about the same time the neighbours always supplied all the requirements and not a penny was charged for it. Milk was not sold.

To-day, the crofter usually keeps one cow, but that one is as good as the three he had

before. The strain has improved and he has a bigger milk-yield. But new methods always bring repercussions in other directions. Now the crofter has not enough manure to keep his soil in good trim. Artificial manures are resorted to, which, without byre manure, soon impoverish the soil.

In the island of Lewis to-day milk has to be imported from the mainland, as the island's supply does not meet the demand. The crofters who have an extra supply of milk find it difficult to move from the old tradition of not selling their milk. In the old days there was plenty of it. Much of it was drunk, by both young and old. There was no waste, and when milk went thick or sour it was used for baking and drinking. There was always a large jugful of it and a bowl on the dresser, and it was a case of help yourself. Any surplus was turned into crowdie.

In making crowdie now, as then, the thick milk is put in a large pot and hung very high over a slow fire. The pot is just kept

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warm, and after some time the crowdie gathers on the top and the whey below. The crowdie is then lifted off with the hands and as much as possible of the whey squeezed out. Some squeeze all the whey out, until the crowdie becomes a big solid lump, which after some time changes into cheese. Others prefer the crowdie not so dry, and spread a thick covering of it on the bread over the butter. Nothing is more palatable than bread with fresh butter and a good thick covering of salted crowdie.

IN the old days the whey was not wasted either. It was used for baking, and made excellent scones or oatcakes. I have seen girls of twelve years baking the household requirements of flour bannocks on the old-fashioned girdle, each bannock about twelve inches across. The bannocks were then cut into four sections or scones, wrapped up in a towel, and put out on the window-sill to cool.

The girdle has now gone out of fashion, and the baker's van calls at the door once or twice a week.

The girdle reminds me of the story of the merchant in the Isles who had a good-going business and who could not write. He, however, kept a kind of cash-book, in which he drew the items given out on credit. A crofter came in one day to pay his account. The cash-book was consulted. 'You got a boll of meal?' 'Yes,' came the reply. 'You got a score of hooks?' 'That is right,' said the crofter. 'And a girdle?' 'No,' answered the crofter, 'I did not get a girdle.' 'But there it is,' insisted the merchant, pointing at the same time to a circle drawn in the book. The crofter was, however, just as sure that he got no girdle, and after a pause added: 'I got a Balmoral.' 'Good gracious,' said the merchant, 'that's it, right enough. I forgot to put the toorie in,' and, wetting the pencil with his tongue, he proceeded to place a black dot in the middle of the circle.

The girdle was daily on the fire in the black house, and eight or nine bannocks, according to the size of the family, was a day's baking. The oatcakes took a little more time and skill. One side of them was baked on the girdle and the other was toasted to a nice brown against the fire or put over the embers on the brander.

Cooking over an open fire naturally had its disadvantages. The chain or *slabhraidh* on which the pots were hung was well covered

with soot down to within a foot or two of the fire. The falling soot ruined many a good meal. A lid or plate therefore covered all the pots on the fire, but, with all the care in the world, sometimes the inevitable happens. The porridge needed stirring, or the soup needed salt, and during that brief moment down would come a lump of soot. Fortunately the stuff was dry and could be skimmed off with the clam shell; nevertheless, many a meal was eaten tasting of soot.

BREAKFAST in the main consisted of porridge and milk—good, solid, thick, porridge with lumps in it. Sometimes the children preferred treacle with the porridge. A spoonful was taken out of the middle of the plateful, and the hole was filled with treacle. Spoonful after spoonful was then taken, dipped in the treacle, and eaten. I remember as children the delight it gave us to make black patterns of treacle on the top of the porridge with the dripping spoon. Bread and milk or tea were taken after the porridge. Many people made brose in the morning. It was easily done and the dish was very sustaining. To make it, boiling water was poured over raw oatmeal in a bowl until it formed a thick dough.

Dinner was usually potatoes and fish. Fish was plentiful, and, if the season was good, the crofter with a plentiful store of potatoes and a barrel of salt-herring in his barn had no fears for the winter. The quantity of potatoes one can take with salt-herring is amazing. A large potful is easily consumed by three or four people. With meat, a potato or two will suffice, but with herring, one just goes on until every potato is eaten.

The peelings and herring bones were kept and mixed up with bran or thirds and given to the cattle or hens. No knives or forks were used with potatoes and herring—and I would say to the uninitiated: 'If you want to get the proper flavour of potatoes and herring, do not use a knife and fork, use your fingers.'

Sometimes the potatoes were mashed and served with milk. A large heaped plateful was put in the centre of the table. Each person was served with a bowl of milk, and each spoonful of potato was dipped in the milk and eaten. Sometimes the cold potatoes would be sliced and fried.

It was customary to kill a young bullock or sheep in the winter. The meat was salted and

PEAT-FIRE MEMORIES

dried and used with the potatoes during the winter. Even when the wartime restrictions were on, quite a few sheep were hanging by the hindlegs in the barn without any permit. At present much of the town supply of meat is imported from the mainland. One village butcher, who was getting a supply from Dingwall, wired to his agent there not to send on any meat next week, as he now had a permit for killing himself. The intestines of all slaughtered animals were used. They were cleaned and filled up with barley or oatmeal, suet, and blood, to make blood-puddings. They were delicious.

Broth was the commonest soup—real thick stuff, with plenty of cabbage, turnip, and peas. After-dinner puddings were rare and practically unknown, except perhaps at weddings. One crofter referred to cornflour as *lite bainne*, or wedding porridge.

At suppertime it was a case of pot-luck. Some people preferred their porridge or their potatoes and herring at night. Probably the most popular dish of all was the *ceann cropaic*, or stapped head. This was a haddock head, or better still a cod or ling head, filled up with a mixture of fish liver and oatmeal. The gills were taken out and the head filled with the mixture. It was then boiled along with the fish. The stomach of the cod or ling is also filled with the same mixture and boiled. It was delicious to eat, and I know of nothing richer in vitamins, when it is sweating with beads of oil.

In the city ling is rarely seen in the fishmonger's; cod is in chief demand. Yet in the Isles the fishermen will rarely take cod if they can get ling. The ling is a much cleaner-living fish, as can be seen from the contents of the stomach. The cod is the scavenger of the sea and practically eats anything at all. I do not wish to put people off their cod steaks by divulging some of the things I have seen in stomachs of cod.

As previously mentioned, when fish was plentiful it was salted and dried. Most houses had a *cluaran*, or dried thistle. When seasoned and dried it retained its shape and became hard like wood, and made a handy stand for hanging smaller fish on, like whiting, haddock, or saith. It hung from a beam or from the wall, and had a fish hanging from every limb or branch of the thistle. During the darkness the phosphorus on the fish shone like a fairy Christmas-tree. A calf's stomach could also be seen in most houses hanging

from a beam. It was used instead of rennet for curdling milk.

A FEW years ago I visited an old man of eighty in the village of Lochganvich, one of the only two inland villages in Lewis. We had tea with him, and while we were waiting he went out to the cornyard, pulled out a sheaf or two, and stripped the seed off. This he placed in an old three-legged pot over a fire in the barn in order to harden the seed. He had an old hand-quern with which he ground his oats into meal. He served this in a bowl, mixed with cream—straight from the stack to the table. I examined the food that was set before us, and only two items, the tea and the sugar, appeared to have been bought. The old man had his own supply of butter, crowdie, eggs, scones and oatcake, and, of course, the *ullag*, or mixture of cream and oatmeal.

In these days every crofter sent a quantity of oats to the mill, and would be back in the morning with several bolls of meal. Each village had its own kiln for hardening the grain before milling. The kiln was just a small bothy with iron plates a few feet above the fire. The grain was spread over the plates and hardened by the heat. It was an all-night job, and the young lads and lassies looked forward to the night in the kiln. At the present day there are only one or two mills in the island, and few people send any oats there at all.

All the threshing was done with the *suist*, or flail. Experts travelled from village to village and for a small sum and their keep undertook all the threshing. About a dozen sheaves, six on each side and the seed end in the middle, were laid on the floor. The steady measured thump, thump of the flail could be heard all day. It was heavy work. At night the barn was lit dimly by the tinker's lamp, a slight improvement on the old *crusie*. It had a conical container for the oil and a wick of cotton rag through the top. It had no globe and smoked terribly. Other crofters threshed their own day by day. They would open a few sheaves and slash small wisps of it over the mouth of an empty barrel. The seed fell into the barrel.

The flail received its death-blow when the hand threshing-mill came along. The year's threshing could be done by it in one day. It had a handle on each side and needed a crew

of four, and one person feeding, to work it. The seed fell through a grating to a tarpaulin on the floor and the straw was thrown out at the rear. It was very heavy work, but it was huge fun chasing the girls with mice and putting some of them into the men's pockets. There was great excitement when the stack was nearly finished, particularly if there happened to be a rat there. Everyone was on his toes, even the dogs knew, and the rat seldom got away.

SUCH is a general outline of the Hebridean diet of fifty years ago, but it has changed and the physique of the race has changed with it. The plates may have been chipped, and the cups or teapot may not have had a handle, but, without fail, grace was said before and after each meal, and thanks given to God with full humility for the blessing He had bestowed, even although, according to modern standards, it was at times dangerously near the poverty-line.

The Blue Handkerchief

[The true story told below of the court-martial of a Swiss Guardsman in the service of France is from the unpublished diary of William Alexander Willis when a Lieutenant in the Royal Navy and has been kindly placed at our disposal by his grandson, Colonel R. ff. Willis, C.B.]

RETURNING on foot from Orleans, in the month of October 1828, I saw a regiment of the Foreign Guard marching before me on the same route. I quickened my pace to hear the military music which I love so much: but the music ceased, and only a few faint measures of the distant drum, making the uniform step of the soldiers, reached my ears.

After half-an-hour's march I saw the regiment enter a small plain surrounded by a wood of firs. I enquired of a Captain whom I knew if they were going to manœuvre.

'No,' replied he, 'we are going to try, and probably to shoot, a soldier of my company for stealing from a citizen in whose house he was billeted.'

'What, judge, condemn, and execute him on the same moment?'

'Yes,' replied he. 'These are the rules of our capitulations. If you are curious to see the trial,' added the Captain, 'I will procure you a place. It will not last long.'

I have never felt an interest in sad sights of this description. I imagined that I was about to learn in what manner death is depicted on

the face of a dying man. I followed the Captain.

THE regiment had formed square. Behind the second line, on the skirts of the wood, some soldiers were occupied digging a grave. They were commanded by a Sub-Lieutenant, for in the regiment every thing is done with order, and there is a certain discipline even in digging a man's grave.

In the centre of the square were eight officers, seated on drums. A ninth, to the right and a little more in advance, was writing negligently on his knees, merely as if to show a man was not killed without some form.

The accused was called forward. He was a young man of tall stature, of a mild and noble appearance. With him advanced a woman—rather say a wretch—the only witness who deposed against him in this affair.

When the Colonel was about to interrogate him, the soldier said: 'Tis useless. I will confess all. I have stolen a handkerchief in this lady's house.'

'You, Peter, you famed for a good fellow!'

THE BLUE HANDKERCHIEF

'It is true, Colonel. I ever endeavoured to satisfy my superiors, but indeed I did not steal for myself; it was for Marie.'

'Who is this Marie?'

'Tis Marie who lives yonder . . . in our country . . . near Aremberg . . . where the big apple-tree stands . . . I shall never see her more.'

'I do not understand you, Peter. Explain yourself.'

'Well, then, Colonel, read this letter.' And he delivered him the following letter, every word of which is still present to my memory:

'My dear friend Peter,

'I profit by the recruit Arnold, who is engaged in your regiment, to send you this letter and a silk purse which I have made on purpose for you. I was obliged to hide from father to make it, for he always scolds me for loving you so much, and says that you will never return. But you will return, won't you?

'Yet, even should you not, I shall love you. I promised myself to you the day you picked up my blue handkerchief at the dance of Aremberg to bring it to me. When then shall I see you?

'But what pleases me is that I am told you are esteemed by your officers and loved by your comrades. Yet you have another year to serve. Do it quickly, for then we will be married.

'Adieu, my dear friend Peter,

'Thy dear Marie.

'P.S.—Try and send me something also from France, not for fear that I shall forget you, but that I may bear it about me. You must kiss what you send. I am quite sure I shall find the place you have kissed immediately.'

WHEN the perusal of this letter was ended, Peter continued: 'Arnold delivered me this letter last night when I received my billet. All night I could not sleep. I thought of the country and of Marie.'

'She asked me for something from France. I had no money. I have engaged my pay for three months for my brother and my cousin,

who returned to our country some days ago.

'This morning when I got up to march I opened my window. A blue handkerchief hung from a line. It resembled Marie's. It was the same colour, the same white stripes. I had the weakness to take it and put it in my knapsack.

'I went into the street. I repented. I was just returning to the house, when this lady ran after me. The handkerchief was found upon me. This is the truth. The capitulation requires that I should be shot. Shoot me, but do not despise me.'

The judges could not conceal their emotion. Nevertheless, when the vote was put, the prisoner was condemned unanimously to death. He heard the sentence with coolness, then, approaching the Captain, he begged him to lend him four francs. The Captain gave them to him.

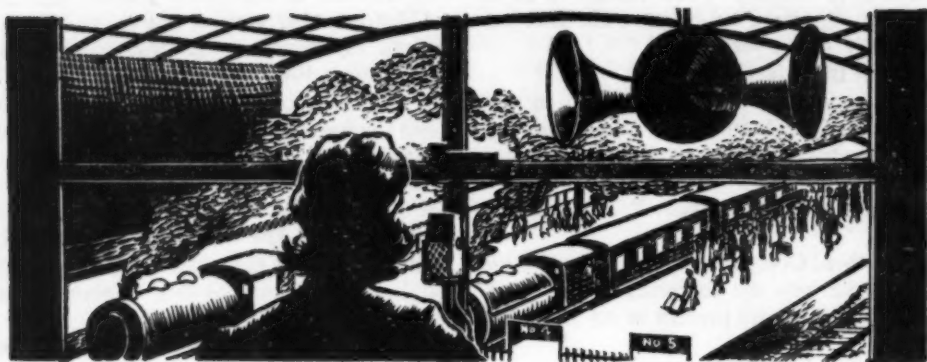
I saw him then advance to the woman to whom the handkerchief belonged, and I heard these words: 'Madam, here are four francs. I know not if your handkerchief be worth more—but even should that be, I pay it dear enough for you to forgive me the rest.'

Then, taking back the handkerchief, he kissed it and gave it to the Captain. 'My officer,' said he, 'in two years you will return to our mountains. If you should pass by Aremberg, ask for Marie, give her this blue handkerchief, but . . . do not tell her . . . how I have purchased it.'

Then he knelt, prayed to God, and marched with a firm step to execution.

I THEN retired and entered the wood to avoid seeing the end of this cruel tragedy. Some musket-shots soon informed me all was over.

I returned an hour after. The regiment had retired. All was calm. But on skirting the wood to regain the road I perceived at a few paces before me traces of blood and a mound of earth newly turned up. I took a branch of fir, made with it a sort of cross, and placed it on the grave of poor Peter, forgotten now by all the world, except by me, and perhaps by Marie.



Railway Loudspeaker Ladies

W. MASON-OWEN

AS the public address system is now a regular feature on the large railway stations of Great Britain it seems that the loudspeaker ladies have come to stay. The voices behind these platform announcements—sometimes raucous, sometimes tuneful—have been blessed or cursed by those whose business, duty, or pleasure force them to travel by train. To the traveller in distress who wants to know about the stops and changes, however, they are a great boon, one of the few conferred by the War.

Not many on the railway systems are very clear about the 'Voice,' when it originated, or the number there are in the various regions. So, to find out for myself, I have travelled the length and breadth of Britain, listening to all the different accents and dialects of the loudspeaker ladies, getting to know about the tricky jobs they did during the War and are still doing at holiday periods.

The origin of the railway 'Voice' is rather vague, for each region tries to claim the honour. Southern Region say it all began at Brighton one sunny Easter Monday when porters used megaphones to help soothe the nerves of an angry army of pleasure-seekers; Eastern Region try to out-do this by claiming that they first used announcers for shunting purposes some sixteen years ago. The other

regions, too, have different stories. But, as far as I can gather, it was, in fact, the L.N.E.R. who first installed a public address system at King's Cross in 1937, using it to announce train arrivals only. Of course, station announcers are by no means a modern idea, as those who have travelled on the Continent will readily agree. For it was there, many years before 1937, that Italian-bound travellers had their morning sleep disturbed by a booming sing-song voice which greeted them at the frontier town with: '*Messieurs les voyageurs, changez voitures—pour Lausanne, Lutry, Vevey, Montreux, Caux, Villeneuve, Aigle, Sierre, Sion, Brieg . . .*'

British Railways employ hundreds of these full-time lady announcers on the various regions. Their voices, soft and soothing in comparison with the surrounding hustle and bustle, come through thousands of loudspeakers from more than two hundred main-line stations; their combined output per eight-hour shift is something in the neighbourhood of ten thousand words.

THERE are all sizes, shapes, and kinds of announcers. There are short girls, pretty girls, young girls, and some who are neither pretty nor young. On the whole, however,

RAILWAY LOUDSPEAKER LADIES

they are pleasing ladies, not averse to the admiring gaze of a distressed first-class traveller or a tobacco-chewing porter who is no longer obliged to bellow out instructions to the question-asking public above the chaos of arriving and departing trains.

Many of the women train announcers recruited by G.W.R. during the War are still at their microphones. Their crisp, clear voices have earned them many bouquets since the days they shepherded service-men and war-workers from one platform to another after a fairly accurate bombing raid.

Selection and training of announcers for the Western Region are left to Miss Geraldine Fisher, a Paddington station announcer whose wartime record of voice production and method of announcing have since become standard for the Western Region. No hard and fast rule exists about choosing a loudspeaker lady. Miss Fisher—or the local stationmaster—usually hear her talking, like the quality of her voice, and offer her a test. If she passes, she is offered the five-guinea-a-week post. Training usually lasts three or four weeks, during which the girls are taught all about timing, phraseology, correct pronunciations of place-names, how to avoid sing-songing and local dialects. In short, they learn how to speak to the traveller in a friendly, confidential manner.

Newcomers have their voice tested on a dead set and when they prove satisfactory they make their first short live announcement against a background of railway noises. When on duty, they occupy their own room, usually something like an observation-tower high above the rails. Seated in front of her microphone, train books alongside her, the lady announcer keeps glancing at the synchronised clock. At the right moment she presses down the microphone switch, the indicator-board lights up to show at which platform the train is standing, and then she makes her announcement: 'The train now standing at platform thrree leaves at 8.50, calling at Woking, Basingstoke, Eastleigh, Brockenhurst, and Bournemouth.'

Although most of the announcers are employed as near to their home-towns as possible, there does exist some policy about not employing girls with strong local accents. But the Eastern Region still like to 'hint' at the locality of the 'Voice.' Illness or emergency, however, sometimes results in a switch of staff, and then we very often get a Mayfair

accent at Cardiff, a Scottish brogue down at Preston, or a musical Welsh lilt up at Waverley, Edinburgh.

THE loudspeaker ladies have had their tough times—especially during the War, when troop-trains were running—their romances, their comedies, and their dramatic moments, too. Between Gilbert and Sullivan records, they maintained law and order among panic-stricken crowds at York, Bristol, and other badly bombed stations, and directed thousands of service personnel to the station canteens. There was Miss Adeline Green, for example. Her face would not be recognised by the regular travellers, but her voice was heard by thousands of them during the War. It was Miss Green's voice that often told long-travelling soldiers that they had had an extension of leave, news of which had been issued after they had left home. This loudspeaker lady used her voice quite a lot before the War when lecturing for the Empire Marketing Board and as a travelling demonstrator for a biscuit factory.

One announcer, at Liverpool Street Station, was only absent from her mike for five days throughout the entire War. Another wartime announcer's delightful way of saying, 'The train now standing at platform six is for Southampton, calling at all stations' so fascinated an American business-man that she recently departed from platform six, en route for the U.S., as his wife.

London's Underground announcers sometimes get bored because all they have to say is: 'Mind the doors, please,' 'All change for the Central London Line,' or 'Passengers for Tottenham Court Road pass down the platform, please.' They envy the 'Voices' at the big junction or terminus who reel off something that conjures up a picture of white cliffs, golden sands, or the silvery sea. Some of them would like to change mikes with the girl who sits in a soundproof cabin at Waverley, Edinburgh, for every hour of the day she recites names which remind one of the rugged Highlands, pastoral Lowlands, rural England, and mountainous Wales. Some of them would like to announce at Manchester Victoria Station, where Blackpool, Eastbourne, and Hastings are only three of the travellers' joys they mention. But none of them would like to go to Pwllheli, the name few loudspeaker ladies like to announce,

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and so far chief stumbling-block for new announcers.

Last year the Railway and Hotels Executives announced that loudspeakers, connected to the station broadcasting systems, were to be installed in the refreshment-rooms at Edinburgh, Crewe, Preston, Swindon, and Bristol stations, purely as an experiment. The object was to ascertain whether train announcements could be broadcast to the refreshment-rooms without unduly disturbing passengers taking meals. From what I have seen and heard, the public like this additional new service. So they should; it is a great service, and one that can be relied on. The 'Voice' knows far better than any porter, for she is in direct touch with the stationmaster, who keeps her informed of all interrupted services, delays, and an up-to-the-minute survey of current services. But we still find dear old things asking a porter for directions as soon as the announcer has finished speaking!

Apart from telling us to 'Close the doors,'

'Stand well back from the platform,' and informing us that 'A restaurant-car is provided on this train,' announcers sometimes startle us just before we join a holiday special, or a train bound for a race-meeting, with: 'Passengers on this train are advised in their own interest not to play cards with strangers.' Or they may jog our memories with: 'Passengers are reminded that smoking is prohibited in a non-smoking compartment,' or with 'Please make sure you have not left anything in the train.' And once in a while we may hear one of those human appeals that make even the mutest English traveller talk: 'Will Brigadier Brown and Miss Winnie White, who are travelling to Gretna Green, please see the stationmaster immediately?'

These, then, are the loudspeaker ladies of Britain. We hope they will stay with us long after the memory of those black-coated City workers—who amused us as they tried to walk in step to Gilbert and Sullivan—have faded from our minds.

The Umtendeleko

B. J. F. LAUBSCHER

THE Transkei, like other regions, has its times of fertile rains, luxuriant grasses and ample food for man and beast, and times of bleak despair when mother earth turns hard and parched and thirst settles like an affliction upon her breast, while vegetation in a gasping struggle to survive tells the tale of water-famine.

Then the thorn-trees, the survivors of many such battles, alone stand defiant, as the long arms of the rising and setting sun cast around the red hues of aridness. The dongas and waterless beds of streams are cadaverlike in the absence of a vegetative cloak. In the groping, rootlike shadow-forms of the morn-

ing and late afternoon sun the leafless scrubs and leafless thorn-trees reflect their inward search for the means of life.

Like straggling ants looking for moisture, the Xosa women, balancing buckets on their heads, pass over the hills to some muddy pool or stream, perhaps now just a seepage in the kloof where the big boulders crown the hills and the mimosa has not yet lost all its green leaves.

The cattle are glassy-eyed skeletons covered with skin. Slowly one sways, its forelegs bend and kneel, the body rolls over, and the dry pale tongue lies on mother earth.

It is of such a time that this story tells.

THE UMTENDELEKO

The Transkei is in drought—bitter, relentless, death-bringing drought. Around the huts the pot-bellied undernourished children stand. The clash of the lively jousting kieres are not heard and the mealies in the granary of the cattle-kraal will last only another week or two.

DUWALI N'KOMPELO, subchief of fame, erect and dignified at seventy-five years or thereabouts, calls his sons and relatives together. They seat themselves while the womenfolk stay in the background. Duwali stands up, wraps his red blanket around him, with his right breast and arm exposed. In a graceful movement his right arm sweeps over the gathering as if making way for the slow firm voice of a majestic being. 'My brothers and children, my heart has grown old in your midst. But still within it there is blood, blood that pours forth when our children cry for food, when the eyes of my cattle bore into my heart as if they would draw from it the moisture for their tongues.

'What have we done?

'What hope is there when the heavens are dry and Umdali, he who has made all, moves not in the clouds and the winds, so that life can rejoice? Why should Umdali not feel what you feel, what I feel, what the cattle feel? Perhaps we have lost the way to utter the call of our hearts—the call which Umdali knows.

'I therefore bid you to travel far and wide and collect from the people who may still have the first corn of the last harvest stored in the thatch of their huts. The women will go for water to the kloof a day's walk from here, where the trees are still green, for last night in my dreams the ancestral spirits showed me a tiny stream there in the kloof. The women must have patience and collect enough water to brew consecrated beer for the Umtendeleko, for I, Duwali N'Kompelo, am of royal blood and by this inherited power have I the right to order an Umtendeleko. We must ask again of Umdali as our fathers have asked before us when our homes were untold risings and settings of the sun from this land.

'I myself shall take my sons, N'Kizi and Bagana, and go by foot to Queenstown, where, in the location, lives my dead brother's son Makazana, who is a headman and has a wagon and oxen. I shall take three gold sovereigns, which was the first money I earned after I was made a man, for in them is

locked up food—food to end the children's crying. I shall borrow the wagon and oxen and bring whatever I can buy.

'Go now and tell the people that when the beer is brewed we shall have an Umtendeleko. I have spoken.'

FOUR days later, under a still broiling sun, three men trudge along. Duwali is in the middle, N'Kizi in front, and Bagana behind. They are within a day's march of Queenstown. Hungry, thirsty, and with aching limbs, Duwali still walks erect, but with laboured steps.

Around the bend stands a motor-truck, with a white man standing beside, drinking from a water-bag. Duwali salutes and says: 'The white man travels fast and carries his water with him, while my belly is as dry as this road. If you will give me to wet my throat I shall ask Umdali in two weeks time to give much rain for your farm and cattle.'

The farmer takes off his hat, hollows the crown, and pours the water into it. 'You can have this. In two hours I shall be in Queenstown and won't need any before then. But where are you going?'

Duwali and his sons drink and lick the drops spilled on the rim. 'We are going to Queenstown to buy food, for our families are hungry and our cattle are dying. We have been walking for four days and hope to borrow a wagon and oxen from a relative in Queenstown to bring back the food.'

'Well, I will take you there. But, tell me, are the witch-doctors going to make rain in fourteen days time?'

'No. The witch-doctors cannot make rain. Only Umdali can give rain.'

'But the mission-churches are praying for rain and have been doing so for months, and so have the white people, but no rain has fallen.'

'I cannot account for that, but I know that when my people have suffered and we have an Umtendeleko, Umdali hears our cries and it rains.'

'Well may your faith be rewarded. Get in.'

YOU are welcome, uncle. Yes, I can lend you my wagon and oxen and shall go with you myself, as I have a month's holiday and would like to visit my relatives,

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but I am sad to hear that most of my cattle have died. That is a great loss to me, because for the last ten years I have placed all my savings in cattle, and now I must see how many can be saved. I have told the superintendent of the location about your Kruger sovereigns and he says he knows a man who will give you ten paper pounds for the three gold ones. So we can buy food to last until the rains come.'

'But why will he give me ten paper ones? Maybe they are worth more.'

'No. He wants them to keep and not to sell again. You will not get more for them. We must get a big barrel and fill it with water for the oxen, for I don't want my oxen to die of thirst.'

IT is dawn and three weeks later. The beer has been brewed. The grass-woven bowls and boiled corn are all in readiness. The people have assembled at Duwali's kraal. The patriarch steps into the inner circle of sitting men: the women form an outer circle, carrying beer, corn, and bowls.

'My friends,' says Duwali, 'to-day is the day for the Umtendeleko. To-day our hearts will be with the spirits of our ancestors. But before we speak to Umdali I must repeat the requirements you should all know. Are all of you who will accompany me, men and women, in accordance with our rites? No one not made an adult can accompany me. Again, only those who this day have no ill-feeling towards anyone, no hatred in their hearts can accompany me. If there is anyone here who has during the last two weeks disobeyed tribal customs and tradition, he or she shall not accompany me. If there are men and women here who have slept together during the period of sanctification over the last two weeks, they shall not accompany me. I await your confessions, for if you be guilty of these things and hide such from us and take part in the Umtendeleko our prayers will be of no avail.'

An awe-inspiring silence reigns, while Duwali waits for the guilty to withdraw.

At last Makazana, the headman from Queenstown, stands up dressed in European clothes. 'Duwali, my uncle, I have been christened and confirmed a Christian in church. I have attended a church in that manner these many years. I have not followed tribal customs and I have accepted that it is

wrong to practise these customs once I became a Christian. These things I have done in good faith, but since I have been among you, my friends and relatives, I have done none of these things of which you, O leader, disapprove. May I therefore accompany you, for I have never seen an Umtendeleko. I shall stand apart, for surely my presence there cannot offend Umdali.'

'My brothers, you who form the circle of wisdom, you have heard Makazana. Speak what is in your hearts.'

A grey-headed old man, wizened with age, slowly rises from the circle and, taking his place next to Duwali, says: 'You have heard the one who has wandered from the ways of our fathers into the ways of the white man. Umdali, who has made all, has made the white goat and the black goat, the black ox and the red ox. In all of them moves his spirit. When they are dying of thirst they will all drink the same water, they will all think of one Maker. It is only outwardly that Makazana can imitate the white man's ways, but in his heart, if he is a good man, there is only one worship, and that is what the spirit of Umdali does within him. I say let Makazana come, for when the spirit of Umdali in all of us rises in light, as the sun will rise before long, then, my friends, that spirit in Makazana will tear itself loose from the white man's ways, which he keeps in his brain, and he will return in his heart to the ways of his ancestors.'

There was a pause—the silence of expectancy—then the powerful sound, the chorus of a hundred throats, a crescendo and a fading into a humming echo: 'We agree.'

THE procession moves off silently, men in front and women behind. In the kloof, where a trickle of water runs over the smooth rock-face, the men and women sponge their bodies. Then, as the sun comes overhead at full noon, they line up in two rows on a high hill.

Duwali steps forward, raises his arms. 'Do you people know what we are here for? We have come to ask Umdali for rain. Look into your hearts. Call on the spirit of Umdali within you. And if there is anything else in your hearts than the desire for rain, and the faith that Umdali can give it to you, then you have come in falsehood.'

'Umdali, we beseech thee, have pity on us.'

THE UMTENDELEKO

We have not made ourselves. Nor have we power over the dew, over the clouds, over the winds. We have nothing and we are nothing, for even the spirit that we claim as our own is yours. Have pity on us and grant us our prayers. Our mouths make but hollow sounds. It is in the thoughts from our heart's desire wherein you will find our prayers. O mighty one, succour us.'

Duwali stops. The chanting begins, rich and melodious. 'Umdali, we beseech thee, hear our prayers, as you have heard and granted the prayers of our ancestors, who through many long years now gone have prayed in this wise to you.' The chanting stops from time to time while one of the patriarchs steps forward to voice the desire in the hearts of those present.

At last Duwali raises his arms. All is silence. 'My people and friends, do not be despondent, do not lose heart or faith, but come again and again, for surely Umdali will answer our prayers as he did in days gone by to our ancestors, who now in the world of spirit are joining us in this Umtendeleko.'

All is stillness, not a murmur is heard. One by one the company files past Duwali, depositing two white beads in his hands as they cry: 'Maker of all things, save us.'

The ranks form again and each one receives a grass-woven bowl with boiled corn. Slowly this is eaten and a can of consecrated beer is passed round from mouth to mouth. No one speaks, all takes place in quietness and reverential silence, and then the voice of Duwali is heard again. 'You must never be

impatient and expect immediate answers to your prayers, for what we have asked for is not ours and thus we must continue to ask and wait patiently until Umdali grants us our prayers.' Duwali turns round and leads the way home.

Makazana comes up to him, for he has been standing to one side during the ceremony. They walk in silence for a while. There are tears on Makazana's cheeks. 'My uncle, this is a bigger church than the white man can build. I have seen it now for the first time. The ceiling is beautiful and made of blue sky, and the lamp is the sun, and at night the big lamp is put away and the ancestral spirits see by the light of the stars, which are their candles.'

'Ah, Makazana, so the spirit of Umdali within you has spoken to his Maker and your eyes have understood for the first time to-day, yet they have been open from the time your mother first gave you suck. Remember, the white man has his ways to see with the spirit of Umdali, and we have our ways—the ways of our ancestors.'

MAKAZANA is awakened from his sleep by a loud crashing noise. He reaches out and grabs N'Kizi. 'Wake up! What is that noise?'

'Go to sleep, Makazana. Since when do you not know the voice of thunder? Did we not have an Umtendeleko to-day, and why should Umdali not tell us he has heard our prayers?'

The Cloud Ships

*Across the ocean of the sky
Decked clouds like lumbering galleons roll;
Quaint, high-sterned treasure-ships of Spain,
White canvas straining mast and pole.*

*They pass; and long low lean black clouds
Put out in chase from pirate lairs;
Dark galleys, many-oared and swift;
Dread ships of Algerine corsairs.*

*But when a truant moon plays o'er
Clouds anchor-dropped in tranquil nights,
Stars hang like little lamps that seem
Some vast Armada's riding-lights.*

ROBERT BROWNLOW LITTLETON.

Twice-Told Tales

XXVI.—*Lady Emmeline Wortley's New Writing*

[From *Chambers's Edinburgh Journal* of February 1853]

WE live in fast days, when railways laugh at the old ten-mile-an-hour gallop and when literature, in like manner, looks back with contempt upon such slow coaches in style as Addison and Goldsmith. Criticism itself is fast, and applauds the high-pressure speed of contemporary authors; but poor Lady Emmeline Wortley applauds more than all, and rushes, with the enthusiasm of her character, into so outrageous an imitation, as to scandalise the whole fashionable press. Among the peculiarities of that style—which is of recent origin—is a strange fancy for treating all sorts of subjects in a jocular and in some degree unintelligible fashion—a proceeding, to say the least of it, beneath the dignity of literature, and anything but respectful to that not inconsiderable part of the world who desire at least common-sense for their money. Now, just at the moment when people are beginning to sicken of these interminable doses of misplaced fun, out comes our titled authoress with a whole bucketful of it—double distilled. Her book (&c.), therefore, is, in many passages, a practical burlesque upon the faith of her censors; they are terrified at her profanity; they tremble for their own infallibility, and would 'beat the rogue for making them afraid.' If the reader will turn to our author's diatribe against wall-papers, he will see at once that she differs from the modern fast school only in outstripping it a little. Imagining that the reader goes to bed in a chamber so decorated, she proceeds: 'Before you actually dropped off to sleep, you were cherishing—unwittingly taking the hint of the stale, unprofitable, heterogeneous hieroglyphics on the wall—all sorts of zig-zagging hopes and Vandyked anticipations, and dwelling on a host of lozenge-shaped memories; or perhaps those reminiscences might seem artfully cut into innumerable small octagon forms; and you were indulging in countless crinkum-crankum, cork-screwing, curled-up little fantasies, all fitting into one another, like the pieces of a

child's map; and complacently pondering over divers scalloped and sprigged, and skewered sentimentalities; and forming little running resolutions of the exact fiddle-faddling pattern before mentioned, frittering away into all kinds of odds and ends, and crotchets and quavers; and entertaining sharp-elbowed, triangular ambitions, remarkably clear and well defined; and so, instead of fair visions of this beautiful world, hill and dale, or sea or forest, you are haunted in your first dozy, dreamy hours of sleep by the most unmeaning of sippets, and scallops, and swallow-tails, and sprigs, and sprays, and shoots, and specks, and stripes, and sprouts, and shreds, and snip-snaps, adorned with borders prim as those of an old maid's night-cap, and flourishes that look like pig-tails galvanised, and jags, and tags, and flim-flams, and semiquavers standing on their heads, and bodkins on three legs, and demented-looking clothes-pegs, and broken-backed toothpicks, and nondescripts of all shapes and no shapes. I have seen some of these precious imaginative papers, apparently producing a most abundant crop of cocked-hats and tweezers alternately—the cocked-hats somewhat collapsed—and agreeably diversified by something bearing a strong resemblance to a deformed tadpole on tip-toes. Of course, this improving and interesting design was repeated over and over again—myriads of collapsed cocked-hats alternated with countless hosts of uncompromising, rigid-looking tweezers, and innumerable armies of humpbacked tadpoles; in another room overwhelming multitudes of boot-jacks, literally placed on tenter-hooks, nevertheless seemed dodging round and round the room, thousands of families of unpleasant-looking pill-boxes—at least, such appearances they dimly bore; while, instinctively, my bothered brain laboured hard to attach *some* purport to the bewildering, cabalistic signs of those most mystical of mystics—paper-stainers.' Is not this deliciously overdone?

Science at Your Service

AN IMPROVED ROLLING-PIN

ONE of the best-known British manufacturers of glassware has introduced a rolling-pin made solely of glass. This is not merely a development for novelty's sake. The pin is hollow and one handle-tip carries a stopper. The pin should be filled with water for extra weight, and particularly in warm weather when it will keep pastry cool during rolling. A second advantage, of course, is the ease with which glass surfaces can be cleaned.

AN ALL-BRITISH FIBRE

The word 'Terylene' may soon become as familiar as the word 'nylon.' It is the name of another synthetic fibre, and in this case represents an entirely British development. It was first made during the War in the Calico Printers' Association research laboratories, and further development work was carried out by the Government at the Chemical Research Laboratory, Teddington. After the War one of our greatest industrial companies acquired the rights to manufacture the new fibre and a £1 million pilot-plant has already produced limited quantities; by next year a £10 million factory will be in production.

The new fibre is based upon chemical by-products of oil. It varies in properties according to the type of fibre made and as a result it can be treated like silk or nylon or like wool. It is warm to the touch, a particular merit for a synthetic fibre; crease-resistant; easily washed and requiring no ironing; and exceptionally strong and able to withstand rubbing wear. These are qualities that give it great prospects in the clothing industry. As a fibre for industrial use, as, for example, in the making of filter-cloths, belting, acid-resisting sacks, etc., it seems no less promising. Its resistance to acid is very high; it also has outstanding resistance to heat. But perhaps the most heartening of all that can at present be said about this new fibre is that here is a wartime British discovery that we have been able to develop ourselves.

A NEW ANTISEPTIC

Based on cetrimide, a modern antiseptic which has come into wide use in surgical departments of civil and military hospitals, a new cream for application to cuts, burns, various skin-affections, rashes, etc., has been produced by one of the best-known pharmaceutical companies in Britain. The cream contains .5 per cent of the actual antiseptic agent. It will remove dirt and foreign matter from a wound and destroy bacteria, thus minimising risks of secondary infection or reinfection during healing. The cream is non-irritant to the skin, even when applied to extensive raw areas. Apart from use in direct application to injuries or skin affections, the cream is an excellent antiseptic dressing for the hands of a person dressing wounds. The cream is conveniently packed in squeezable tubes and directions for use are supplied.

A PRESSURE-COOKER

Pressure-cookers have been described in this feature several times before, so there is no need to discuss the principles of their cooking method. To-day many models of this type of cooker are available; the old heavy-to-lift models have departed and the modern pressure-cooker is a much more compact and convenient domestic appliance. One model that is most reasonably priced has been designed with the unmechanically-minded user particularly in view. It is accident-proof, because it seals itself with its own internal pressure and it is impossible for anyone to open the cooker until all pressure has been released. Audible signals are given if the heat is too high; in addition, of course, there is the usual release-fuse for controlling excessive temperature and pressure. Both the saucepan of the cooker and the lid have bakelite handles. The edges of the appliance are rounded for easy cleaning. Models for use on gas or other flame-heating sources have concave bases, but models for electric hot-plates or solid-fuel cookers have thick machined bases.

CHAMBERS'S JOURNAL

ROLLER PAINTING

In industrial painting the brush method of application has suffered considerable competition from the spray-gun. Now in smaller-scale domestic painting the time-honoured brush method is challenged by a hand-roller device. Convincing demonstrations have been given at many exhibitions and it certainly seems that the roller for paint or distemper application will make a strong appeal to people who nowadays do much of their own household decoration.

The wooden roller is thickly covered with a specially durable type of beaver-lamb's wool. The handle, though centrally placed, is connected only to one end of the roller, thus enabling the other end of the roller to give unobstructed contact at wall-edges, etc. The technique of application is simple. A metal tray wide enough for the roller—for example, the type of tray used for cooking-ovens, is used as the receptacle for prepared distemper or paint. Only a small quantity of the material is poured into the tray or dish at any single time. The roller is run along in the tray to allow it to pick up enough distemper or paint to cover the fleece. After this, the surplus material is squeezed out by hard rolling in the tray, leaving enough paint on the fleece to cover an area of about 2 square yards per application. The roller is then used on the surface to be painted or distempered. Light rolling covers the surface with a smooth, well-finished layer. This method is claimed to be as successful with uneven as with smooth surfaces.

The finish obtained is free from brush-marks. Another advantage is found in the fact that there is no risk of dripping or splashing. The material is firmly held by the fleece until the appliance is actually rolled. Rooms can be decorated without an excessive removal of furniture, etc.

Cleaning the tool is simple. Using the tray, the surplus paint is rolled out in turpentine and the roller is washed in warm, soapy water. If distemper or any type of water paint has been used, however, the roller can be cleaned out simply by washing it under a running cold-water tap.

It is claimed that a single roller will last a ten-roomed house for more than six decorations, even assuming that three coats of paint are applied per decoration. The appliance is relatively inexpensive and is sold under guarantee.

ANTIBIOTICS AND PLANT GROWTH

That trace additions of antibiotics—for instance, penicillin, aureomycin, etc., to animal food will accelerate the growth of pigs and poultry has already been discussed in these columns. Though not yet sanctioned in this country, this supplementary feeding method is now widely used in America. A new development, also originating in the United States, is that trace supplies of antibiotics can similarly stimulate plant-growth. So far the evidence rests upon only a few experiments, but the least that can be said is that this new and perhaps far-reaching possibility is strongly indicated. Sweet-corn seeds were watered with water containing a few parts per million of terramycin, an antibiotic actually derived from a mould found in soils. The seeds thus treated gave a higher percentage of germination, and produced taller and heavier plants, than seeds sown under identical conditions and watered with the same amount of ordinary water. Similar results were demonstrated in experiments with sorrel and pansies. Radishes were sown in soil treated with penicillin; again the amount of antibiotic supplied was minute, measurable in parts per million. The radish plants produced were more than twice the size of plants not thus treated. In some experiments the addition of the antibiotic substance in regular watering was not continued throughout the test period but the extra-growth benefits derived from the earlier treatment were not lost—that is, the plants continued to show that amount of size advantage over untreated plants.

Many more experiments will be needed before this new property of antibiotics can be regarded as soundly established. The potentialities seem huge. In areas where the growing season is short, for instance, it may be possible to develop plant maturity more quickly. In general, bigger crops may be made possible. It should not be supposed, however, that the antibiotic substances actually feed plants. It seems more likely that they enable plants to assimilate nutrients more efficiently. This implies that plant-food supplies in soils must be adequate if benefits from antibiotic traces are to be obtained. The further development of this American discovery will no doubt be keenly awaited by agricultural scientists in all parts of the world. Meanwhile it might be emphasised that no one should carry out amateur

SCIENCE AT YOUR SERVICE

experiments with additions of penicillin preparations to soils. The amounts that are needed are minute and the most rigid scientific control and measurement is required for experimental work of this delicate nature.

CLEANING EGGS

Eggs by the very nature of their feathered producers must sometimes be soiled—indeed, often is a far more accurate qualification where hens are kept in colony houses, farmyards, or on the fold system. The obvious thing to do with a soiled egg is to wash it. For once in a way, however, the honest application of soap and water is unvirtuous. For a good many years now—and particularly in Australia and America—the problem of the soiled egg has been scientifically studied. Any method of egg-cleaning that involves wetting the shell with water is now known to increase the tendency for the egg to go bad in subsequent storage. For eggs quickly consumed as fresh eggs this is not a very important matter; but the reverse is true for eggs that are cold-stored. Tests have shown that it is better, indeed, to cold-store soiled eggs than to cold-store eggs that have been washed. Severe wastage has resulted from rotting in cargoes of chilled eggs shipped to this country and investigations have revealed that the trouble was due to washing eggs on the producing farms. Since Australia has exported only clean, unwashed eggs to Britain, the average number of eggs rejected per case on arrival has fallen from over 5 to below 1.

The crude explanation is that any appreciable wetting of the egg's shell removes protective factors that normally resist penetrative bacteria. Also, decomposing bacteria tend to accumulate in washing-water used for egg-cleaning. A serious aspect of this problem is that some egg-producing farms adopt the system of washing all eggs whether they are in fact clean or soiled, for it is often easier to put all the day's eggs through a washing process than to sort them out. Surveys have shown that in this country washing is the common treatment for dealing with soiled

eggs. A recent statement in the Ministry of Agriculture's Journal is as follows: 'At the best . . . eggs washed on the farm cannot be expected to keep better than dirty eggs, and at the worst they will not keep so well.' Substantial research efforts are being made to devise a new method for cleaning eggs. Meanwhile, dry-cleaning methods—using sand and a slightly moist cloth or using wire-wool—are recommended.

A HEATED WATER-TROUGH

Shown at a national exhibition for the first time recently, an electrically-heated water-trough for poultry may prove a boon to keepers in cold areas. The trough is made of heavy-gauge galvanised mild-steel and has rolled safety-edges and cross-stays. A 400-watt encased element automatically heats the water under thermostatic control at 50 degrees Fahrenheit. The trough is made so that it can be connected to a mains water-supply.

A KEYLESS PADLOCK

A new type of padlock operates without a key and offers something of the security given by the combination-lock safe system. On the side of the padlock there is a small clock-face with hour and minute hands. The lock can be set to any chosen time and it will not open again until the hands are moved to record the time selected. The clock-face has a sliding cover and it is not until this cover has been replaced that the lock springs open. To lock again, a small tongue protruding from the side of the padlock is simply pressed home. One simple merit of this device is that the code is easily memorable; most people will find it easier to memorise a time than a series of arbitrary numbers. It should perhaps be made clear that the clock itself does not operate; it is simply a clock-face with movable hands—that is to say, the lock is not designed to open at a particular time, but only when the hands are set to indicate a time. What is perhaps most surprising about this new lock is its price; it costs only a few shillings.

TO CORRESPONDENTS who wish fuller information regarding new inventions, publications, etc. mentioned here, addresses will be furnished, when possible, if (and only if) a stamped addressed envelope or postcard for a reply be sent to the Editor, *Chambers's Journal*, 11 Thistle Street, Edinburgh. To avoid delays, requests of this kind from correspondents abroad will be forwarded to the manufacturer or agent if stamps, postal orders, or imperial or international reply coupons are enclosed for the purpose. The issue of the *Journal* and the heading of the paragraph in which the object of inquiry is described should be given in order to facilitate reference.

Fruit-Trees and Biennial Bearing

AMATEUR gardeners know, unfortunately, too many instances of the biennial bearing of fruit-trees. Certain varieties are well known to crop every second year and are either given a wide berth or endured. The problem of biennial bearing is obviously bound up with the question of manuring, although for years this fact was not fully recognised. At first the effects of thinning were tried, not for the purpose of the production of fine fruits, but in order to try to prevent the tree overcropping itself in one year and so refusing to produce a crop the following season.

Many years ago Mr Henry Dunkin showed the writer some work he had done in this connection on his famous experimental plot near Warwick. That Mr Dunkin had some success, there is no doubt, but there is evidence now to show that better results might have been achieved had the question of manuring entered into the experiment, as well as that of thinning. He was able to show not only that thinning ensured better-sized apples and pears, but also that by thinning trees had a tendency to crop more regularly.

In America, for instance, in the apple-producing districts, the rainfall on the whole is low, and thus the trees tend to suffer from nitrogen starvation rather than from potash starvation—as they do in this country. In Canada, also, like climatic conditions obtain, and the workers there have satisfied themselves that thinning is by no means a certain method of inducing a tree to crop annually.

Every year in the spring there may be a shortage of available nitrogen—say, during the month of April and even early in May. The soil at this time may be cold, and it is certain that in grass orchards the grass itself occupies the warmer, aerated soil where, if there is any bacterial activity at all, this activity is likely to take place. On the other hand, the plant-foods, such as phosphorus and potassium, are not entirely dependent, as is nitrogen, on the activity of bacteria, and so one may assume that these two foods are always available. Given, then, a soil in the

spring where phosphates and potash are in use, and where nitrogen is lacking, it is reasonable to suppose that the whorls of leaves on the spurs may suffer. It is presumed that the leaves on the spur have some effect on the storage of food, either in or near the spur itself, as Robert's work at Wisconsin seemed to prove. Thus, if nitrogen is lacking at the time of the year when these spur leaves ought to be developing to their greatest size, then, as a corollary, the future fruit-buds may suffer. They will be less definite, less plump, and so contain but poor flowers.

The gardener must, therefore, face the problem of feeding the leaves on the spurs at the right time and in such a way that soon after these leaves are fed and are functioning properly the excess nitrogen, if any, may be washed away. The gardener does not want to force his tree into wood growth, and this will happen if the nitrogen becomes available in large quantities during the latter part of the spring and early summer.

How then can the spur leaves be fed for the sake of the future fruit-buds without causing the tree to be excessively vigorous? It seems to have been shown empirically that the use of a nitrogenous fertiliser during the month of January on grass orchards, and during the first two weeks of February on cultivated fruit-land, is what is really required. It may be, and it probably will be, that in counties in the north-west and perhaps in the south-west, where the rainfall is very high during winter, the nitrogen dressings for tilled land need not be given until, say, mid-February.

The idea is to give nitro-chalk at, say, 2 oz. to the square yard with trees in grass and sulphate of ammonia with trees on cultivated land at a similar rate. The organically-minded, however, will use instead dried blood—which is much dearer—at 3 oz. to the square yard.

I shall be glad to help readers with their gardening problems. Write to me through the Editor, kindly enclosing a stamped addressed envelope for the reply.

W. E. SHEWELL-COOPER, M.B.E., N.D.H.

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